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Under the provisions of the Vocational Education Act of 1963, the Advisory Council on Vocational Education was directed to review the administration and status of vocational education programs. Highlights, recommendations, issues, and problems of vocational education within the national context of changing social, educational, and economic conditions are reported. The report contains sections relating to: (1) The Panel of Consultants on Vocational Education and the Vocational Education Act of 1963, (2) Growth and Development of Vocational Education, (3) Financing Vocational Education, (4) Administration of Vocational Education, (5) Research in Vocational Education, (6) Teacher Education, (7) Vocational Guidance, (8) Supporting Services, (9) Review of Contemporary Local Programs, (10) Achievements and Limitations, (11) Social and Manpower Enviornments of Vocational Education, (12) Innovations and New Directions, (13) Legislative Recommendations, and (14) Administrative Recommendations. Highlights of this report, as presented in a report of the advisory council to the U.S. Congress, was announced as ED 021 151. (DM)

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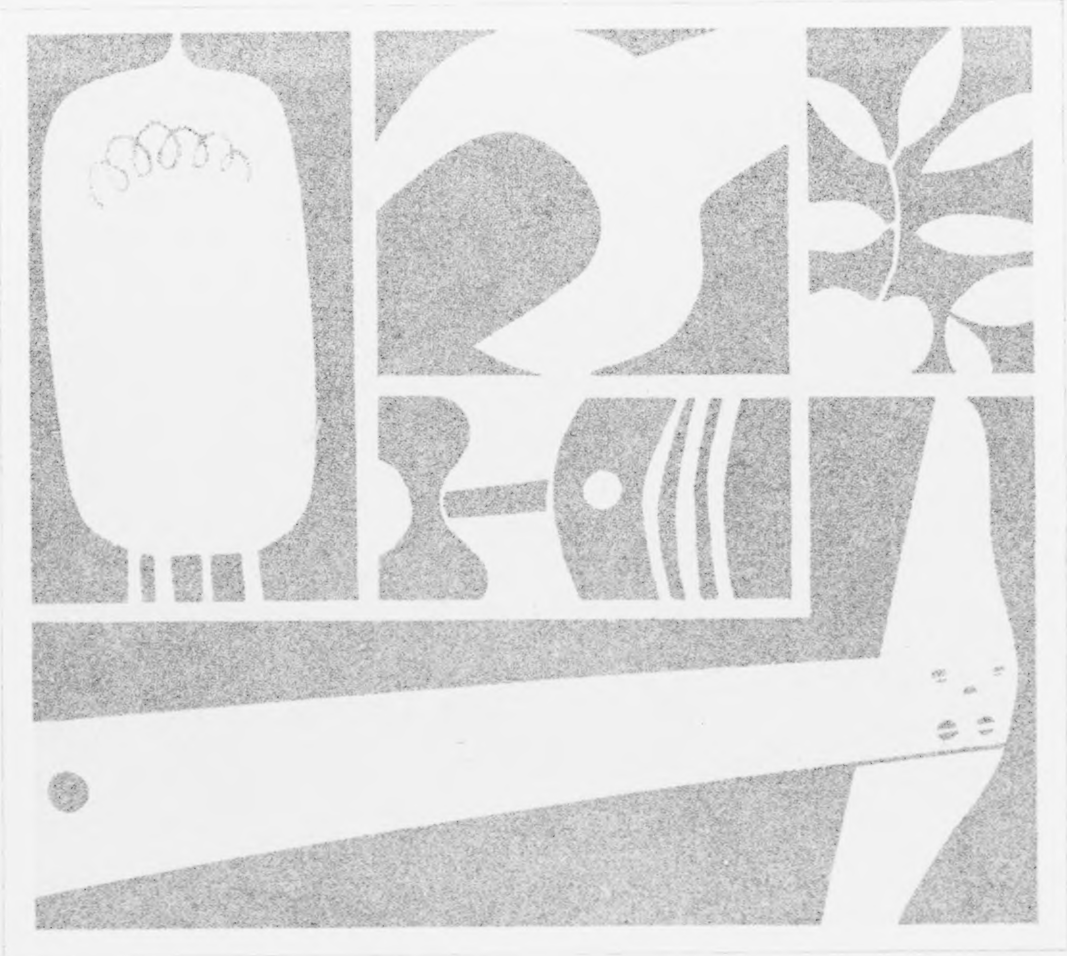
VOCATIONAL EDUCATION

THE BRIDGE BETWEEN MAN AND HIS WORK



GENERAL REPORT OF THE ADVISORY COUNCIL ON VOCATIONAL EDUCATION
1968

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U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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VOCATIONAL EDUCATION

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general report of the

3 ADVISORY COUNCIL ON VOCATIONAL EDUCATION, Washington, D.C.

1968

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Letter of Transmittal

December 1, 1967

Hon. John W. Gardner
Secretary of Health, Education, and Welfare
Washington, D.C. 20201

Dear Mr. Secretary: I have the honor to submit herewith the report of the Advisory Council on Vocational Education, appointed by you, and announced by the President of the United States on November 22, 1966.

The council has prepared its report in conformity with the provisions of section 12, Public Law 88–210, the Vocational Education Act of 1963.

Members of the council join me in expressing our appreciation of the opportunity to be of service in connection with the national review of vocational education.

Sincerely,

Martin W. Essex,
Chairman.

The Advisory Council on Vocational Education

November 1966—January 1968

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Foreword

Vocational education faces a unique challenge in the years ahead—a challenge rooted in the social and economic welfare of people. In the contemporary social scene, with its large city problems, the ghettos, school dropouts, and a variety of disadvantaged groups the need for vocational education stands out clearly. Never before in its history has vocational education had such an opportunity to reach out into the total population and serve the groups that society has passed by.

Under the influence of the 1963 legislation vocational education has grown rapidly. This rate of growth must continue so that more of the youth in high schools and in post-high-school institutions have an even greater opportunity to prepare for the world of work. Preparing students for the transfer from school to work requires a greater variety of educational preparation for work, and demands new levels of integration of general and vocational knowledge and skills. Similarly, expansion of programs for employed and unemployed workers, including retraining, must take into account the personal needs of individuals as they attempt to adjust to the occupational changes created by technology.

New dimensions, ideas, and experimentation must mark the departure into the future. In no way have we explored the limits of the potential of vocational education. A cultural and skills learning corps, with a focus upon youth, can provide the motivation and idealism from which one derives a sense of purpose. Many youth need a new home environment which is conducive to their self-development before great strides can be made in their occupational planning. Concepts of work must be generated early in the educational career of youth so that they have first-hand information against which to match their talents and desires. Their total educational experience must have increasing emphasis upon the world of work.

During the preparation of this general report of the council, suggestions were received from nearly a hundred professional groups and organizations, from all of the States, and from a number of individuals representative of business, industry, education, and labor. We are deeply indebted to these persons. In addition, the Staff of the U.S. Commissioner of Education were generous in providing the resources needed by the council.

Our goal for the future is clear, but we must develop the courage to pursue that goal with all of the innovative potential we can muster. After all, we are concerned with the greatest resource of America—its people.

MARTIN W. ESSEX,
Chairman.

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Introduction

Changes in the way we live and how we make our living have caused vocational education to become central to the total process of public education. The purposes of vocational education have become so enmeshed with the purposes of education in general that we are not justified in thinking of vocational education as a separate and distinct entity set aside from education.

The total educational process is inexorably tied to the work required by society. Both the nature of society and the characteristics of work have changed. In recent years, these changes have been rapid and have magnified the interdependency of work and education. There is no place in the world of work either for the uneducated person, or for the educated person who has not learned to work.

The centrality of work in the day-to-day lives of people and the ways in which work influences the social, civic, cultural, and personal relationships of individuals must take on new meanings and a new emphasis in the total educational process. An occupation is the most occupying of all human activities. It sets the standard of living, it influences family relationships, and it controls the quantity and quality of civic participation and responsibility. Education looms large as a factor in the solution of the social upheavals of the 1960's, and the ability to perform the work that society is willing to buy is one of the elements related to the social problem.

What Makes Education Vocational?

If vocation is defined as what a person does to earn a living, it follows that vocational education consists of the educational content and process through which one learns to become a competent worker. This point of view suggests that vocational education is a part of the total education process, but further limitations must be placed in order to focus specifically upon the areas directly associated with occupational competency.

The skills and knowledges required of a person to perform the tasks of an occupation are of primary concern in vocational education. Mindful of the necessity for workers to acquire skill, knowledge, and understanding in a variety of related educational contents, it is the specific occupational tasks with which vocational education has primary concern. Becoming a successful practical nurse depends upon a number of exceedingly important related factors, but in the end, whether or not a person can perform successfully as a practical nurse depends upon the extent to which the person has acquired the specific skills and knowledges of the field of practical nursing.

It has been the practice in vocational education to bring people having common vocational goals together in one group for instructional purposes. This has led us to think of vocational education in terms of the name of a class—carpentry, electronics, stenography, for example. But it is not the name of the subject that makes it vocational—it is the intent of the student and the arrangement of the instructional content. There is nothing inherent in the name of the subject that makes it vocational.

Vocational education, although focused upon the occupational tasks of the world of work, cannot be easily separated from the total educational process. New relationships in the vocational continuum must be developed in order to integrate effectively the unique contribution that other areas of education make toward vocational competence.

Scope of Vocational Education

The purposes of vocational education are identified in terms of the needs of people. In general, vocational education serves two broadly conceived age groups, (1) the in-school age group and (2) the out-of-school age group.

The in-school age group consists, in part, of all youth whose full-time occupation is that of being a student. This group is found primarily in senior high schools and in post-high-school institutions such as junior colleges, community colleges, area vocational schools, and similar institutions. Vocational education programs for the in-school age group are primarily preparatory in nature (the student is preparing to enter the labor force) and include all youths in school—the bright, the great mass of youth of normal intelligence, the reluctant, the dull, the handicapped, the socioeconomically disadvantaged, and the functionally illiterate. All youth—black, brown, red, yellow, and white—are included within the scope of vocational education.

Some youth of the in-school age group are not in school. These are the dropouts, the culturally disadvantaged, the minority groups, the ghetto residents, and other specially designated youth. In scope, vocational education extends to these youth, as well as to those who are actually in school.

The in-school age group (15 to 24, roughly 30 million) are, for the large part, either preparing for a place in the labor force of the Nation or have a desire to do so.

The out-of-school age group consists of the members of the work force, the employed and the unemployed. Employed persons need vocational education in order to keep up with the technology of their occupation, to maintain a favorable position of occupational mobility by expanding the scope of their knowledge and skill, and to retrain for new occupations. The unemployed persons need vocational education in order to enter, or reenter, the labor force and thus become productive members of society.

The out-of-school age group is large (roughly 90 million), and its vocational education needs are exceedingly complex. Included in this group are women who enter or reenter the labor force, the unemployed with their myriad problems, and the functionally illiterate who pose critical problems in vocational education. The largest part of this age group consists of the millions of employed workers who need vocational education to maintain and improve their occupational position. Vocational education is needed also by persons who have the socioeconomic problems of the ghetto and by a variety of persons in special groups—the American Indian, for example. As with the in-school age group, there are no barriers in vocational education attributable to race, color, or religion for the out-of-school age group.

The scope of vocational education was extended considerably by the provisions of the Vocational Education Act of 1963. "Outreach" facets of the act make it possible to serve "persons of all ages in all communities" by providing vocational education leading to occupational stability.

Educational Concerns

Vocational education has been presented in broad terms with a target on man and his work; its primary responsibility is to help people enter the world of work, or to make progress in it, to their best advantage and that of society. But the total task of providing individuals with vocational self-sufficiency is not alone a task of vocational education.

Significant changes have taken place in vocational education—as this report will indicate many times—and it must continue to make adjustments to fit the educational, occupational, and social need. But education itself must change—in some respects radically—and depart significantly from previously established goals.

Public school vocational education was conceived as an integral part of the total responsibility of public education. This is no longer a debatable issue. However, both education in general and vocational education have been accused of being inflexible, traditional, and out-of-date. Depite any evidence that might support this point of view, there is no reason why it should be so, and it is incumbent upon all educators to see that a dichotomy between education and vocation does not exist. Both education and vocational education are moving toward the goal of producing an educational environment conducive to the total development of the individual.

For a long time, the future has cast its shadow on the present. Many students have failed to acquire a reasonable degree of competency in fundamental areas thought to be essential to their future as responsible individuals in society. Many students have dropped out of school (about 1 million in 1966) because of economic and other reasons—and some, perhaps, because they were bored. That such situations develop may not alone be a failure of the school but probably, in a large part, a failure of society to make it possible to carry out its goal of education for all of the children of all of the people.

Most of the large cities of the Nation are bulging at the seams with students in school, and the cities are financially unable to provide a minimum acceptable program for all, let alone to provide for the wide range of individual differences and needs. Furthermore, any hope of the school extending vocational opportunity beyond the schoolroom to children and youth not in school is, under present financial circumstances, unrealistic. So, citing the school for its failure, when it has not been permitted to succeed, is hardly justifiable. Even so, the school can do much more even under present circumstances.

The needed educational renaissance of the future can be realized. Much has been learned about motivation, teaching, and learning. Educational theory is sound and supported by research in depth. What is needed is the opportunity for education to remove its unwanted shackles and to expand its program beyond the confines of the classroom into the community at large, bringing educational reality to the ghetto, and to the children and youth of special circumstances who have been short changed educationally. The educational "know-how" to solve the social problem already exists.

The school of the future must operate on a full-year basis and, to a large extent, around the clock. It must reach into every facet of the community with depth of concern including the gamut of experience from early childhood education, day-care centers, summer camps, and youth projects of great variety, to prevocational instruction, work-experience education, and actual vocational preparation. The school is society's safety valve, and it should be used to serve in this capacity.

Many educational problems of an internal nature can be solved by material at hand. Programmed learning, educational TV, team teaching, and dozens of other devices to motivate learning and speedup the process have been demonstrated to have instructional value. Some schools have moved into an entirely new learning environment, and all must do so. Many of the deterrents to educational progress have been under critical examination, including departmentalization, school grades, nongraded classes, carnegie units, subject-matter time concepts, and educational tracks. The substitutes for the future are focused upon individual competencies developed in a flexible educational environment. The student of the future should be able to demonstrate communication competency, rather than present certified credentials verifying the fact that he has served time for 4 years in English, three in mathematics, and two in French.

Vocational education is involved in this renaissance with an emphasis that changes gradually from interest and concern to direct participation—student age and development are the controlling factors. Somewhere in the student's early educational career an interest in vocation must develop. This interest must find expression in the elementary school and the junior high school. At an appropriate time—dictated by student interest more than by age and grade level—the student must begin occupational exploration. He will need the guidance of a teacher specially trained to aid him at this point. One of the major problems is that so few students have ever had an opportunity to learn very much about the vast number of exciting ways that people earn a living—their normal growing up experiences do not provide this opportunity. Later, the student should have the opportunity of continuing his study of the occupational world by actual participation in it under the guidance of instructors in supervised work experience programs; this should be supplemented by other schoolwork experience as appropriate. All through his formal educational career the student should be learning about work, he should be able to place value upon his total education in relation to work, he must learn much about himself and his educational preferences, and it is imperative that he sharpen his identity with his occupational future. During the major portion of his life he will be a member of the labor force.

When he finally makes his occupational decision, vocational education will provide the hard-core essentials which will make it possible for him to find employment in a number of specific jobs related to the area of his vocational preparation.

Commitment

One of the major reasons why vocational education has not been more extensively developed in the public schools of the Nation is that there has been little commitment to do so. The driving urge to provide vocational education opportunity has been lacking in most public schools.

That a commitment must develop in relation to vocational education has become a social and economic imperative. It is a major function of American secondary education to prepare all students for the world of work by the time they finish their formal schooling at whatever level they achieve. This point of view is an extension of the concept that the greatness of America is not its tremendous wealth, but its ability to use its human resources wisely.

Wise use of our human resources depends, in a large measure, upon how we prepare our students for a world of work; wise preparation cannot move forward significantly except on the basis of a fundamental commitment to do so.

The first step in developing a commitment for vocational education must be taken by school boards, administrators, and professional associations. Such policymaking groups must see clearly that a vocational education commitment is in line with students' well being and with the needs of the national economy.

The second step in the commitment involves the total faculty of the school community. This is to say that the sixth grade social studies teacher, the junior high school physical education teacher, the high school mathematics teacher, and the junior college physics teacher, and all other teachers have significant roles to play in the vocational development of an individual in addition to the teacher who's instructional responsibility is directly related to the skills and knowledges required in an occupational setting. This is not a new concept in education, but never before have the occupational goals of students been so totally dependent upon their total education.

This is a difficult task because all members of the educational family must give up some of their cherished patterns of instruction and work together as a team to achieve one of the immediate goals—an appropriate integration of subject matter.

The rationale concerning the integration of subject matter is less controversial than the methods and procedures of achieving the goal. It seems obvious that an approach to implementation requires that a number of changes occur in both the so-called general part of the curriculum and the vocational part. The nature of the resulting mix should have more of the characteristics of a mechanical mixture rather than a chemical combination; the first retains the identity of the elements mixed, the latter produces a new substance with characteristics quite foreign to the original elements.

The desirable goal is a situation in which the total educational effort can contribute to the total vocational education of students, and at the same time leave enough room for the hard-core instruction in vocational education which leads to employment.

It is relatively easy to develop a program of studies that tends to provide liberalizing forces, which are at the root of every student's learning experience. Similarly, it is relatively easy to organize a program of studies leading to employment in a single occupation or a cluster of occupations. The difficult task is to develop a program involving both of these essential aspects of education, and to get the right combination of these to meet the needs of each individual student.

This is not wild theory, it has already been carried out by some schools and with considerable success. The students like it because the flexibility of the system makes it possible for education to "fit" them, rather than the necessity that they "fit" the system. Such a commitment negates the old description of the curriculum as a race to be run by the bright, the dull, the lame, and the blind, and those that finish on time are educated. Teachers like the system because it provides so many opportunities for teaching to become the exciting profession that it should be.

The third group to be identified in the general realm of commitment for vocational education consists of the public at large—the community. A renaissance in public education cannot be achieved without a commitment, and actual involvement, of the total community.

Education changes, and the community is not always up to date with such change. The parental conception of education is frequently patterned after their own experiences and not upon the experiences of their children. This suggests that the "new education" of the future can be successful only to the extent that the public at large becomes involved in the change. It can continue to be successful only to the extent that public information is flowing generously in two ways—from the community to the school, and from the school to the community.

An additional commitment, which in some respects is a major controlling commitment, is represented by the action of Congress in matters related to vocational education.

During the past decade, a number of acts of Congress, passed in response to urgent social and economic need, have had vocational education provisions. These acts have provided extensive amounts of money and are administered by several agencies other than the Office of Education.

The diversification in responsibility for vocational education and training complicates the problem of vocational education because (1) it creates competition, in some respects, for the same group of students (for example, a school administrator frequently has the choice of funding a vocational program under one act with 90 percent Federal funding, under another act with 75 percent Federal funding, and under the Vocational Education Act of 1963 with 50 percent Federal funding), and (2) it produces a critical need to coordinate the functions of all agencies involved.

The commitment of Congress, over the years, to vocational education has caused to be developed in each of the States well organized staffs to plan and conduct vocational education programs. This existing and effective pattern for implementation of vocational education programs in relation to national needs should be utilized to the fullest extent.

Summary

Contemporary social and technological forces make it clear that the Nation must sharpen its ability to provide vocational preparation for persons who are entering the labor force for the first time, and also for those persons who are members of the labor force, both the employed and unemployed. The scope of vocational education is sufficiently broad to encompass these requirements. Included within the total context of vocational education need are a number of special groups of persons.

In addition to a basic educational commitment to provide vocational preparation in the mainstream of public education, there are three major areas of concern.

First, starting early in the student's formal education he must learn more about work, its dignity, and his relationship to the occupational world. Actual work experiences need to be included as an integral part of the student's educational program.

Second, the subject matter of the school and vocational requirements need to be realigned so that education becomes more meaningful in terms of its occupational potential. This involves a high degree of flexibility and a definite movement toward individualization of instruction.

Third, the hard-core content of vocational education—the part that makes a person employable—must be adjusted to accommodate a wider range of occupational opportunity and a larger number of students.

The renaissance in education must develop new relationships between the school and the community at large to the end that education, with its vocational component, reaches into every facet of the community to provide for youth and adults now not being served.

In order for education to exert its full impact upon the social and economic needs of the Nation, the Congress must recognize the long-term potential of the existing system of vocational education and utilize this potential to the fullest extent. Although the need for "crash" programs in vocational education and training may occur from time to time, it is neither economically sound or educationally feasible, as a matter of national policy, to promote the development of an additional system of education outside the realm of the public educational structure.

Summary of Report

The Advisory Council on Vocational Education has focused attention primarily upon the period since July 1964, when the first indications of the impact of the Vocational Education Act of 1963 can be noted. Throughout the report reference has been made to issues identified by the Panel of Consultants on Vocational Education, 1961–62, and to the extent it has been possible to do so, the adjustments related to these issues have been identified.

Upon the basis of its study the council makes the following recommendations.

Recommendations

It is recommended that:

1. All Federal vocational education acts administered by the Office of Education be combined into one act.
2. A Department of Education and Manpower Development be established at Cabinet level.
3. Funds and permanent authority be provided for the Commissioner of Education to make grants or contracts to State boards and with the approval of the State board to local educational agencies and to other public or nonprofit private agencies, organizations, or institutions for planning, development, and operation of exemplary and innovative programs of occupational preparation.
4. Funds and permanent authority be provided to develop and operate new and expanded vocational educational programs and services specifically designed for persons who have academic, social, economic, or other handicaps.
5. The act provide permanent authority for work study and include work study and work experience programs in the secondary schools and those at the post-secondary levels related to vocational and technical education.
6. Funds and permanent authority be provided for the Commissioner to make grants to States boards of vocational education and, with the approval of the State board, to colleges and universities, and/or to public educational agencies, to construct facilities and operate residential vocational schools.
7. The act provide for at least 25 percent of the funds appropriated for allocation to the States to be used for purposes set forth in purpose (2), post-

secondary schools, and (3), adult programs, of the Vocational Education Act of 1963.

8. The act include vocational homemaking education in a separate section of the act with specific funding authorization.

9. The act provide for the distribution of funds to the States on bases which will encourage increased enrollment, attendance, and improved performance.

10. The act permit matching of the Federal allotment on a statewide basis.

11. Provision be made for States to receive allotments earlier in the calendar year, and expenditure of funds be authorized through the succeeding year.

12. The act provide that salaries and expenses needed for the administration of vocational and technical education be included in the annual appropriation for this act.

13. Provisions for developing a State plan in the act provide that a State shall, through its designated State board for vocational education:

a. Submit for approval a properly executed legal contract to the Commissioner of Education on such forms and in such detail as the Commissioner deems necessary to assure compliance with the provisions of the act and regulations;

b. Submit a 5-year projected plan for administering and operating programs of vocational and technical education. An annual updating of the plan to reflect changes and modifications contemplated would be submitted on or before the beginning of each fiscal year.

14. The act recognize the need and provide support for professional and paraprofessional staff recruitment, preparation, and upgrading at all levels, including leadership, administration, teacher education, and counseling and guidance, on a State, regional, and national basis.

15. Twenty-five percent of the funds appropriated for title IV of the Higher Education Act of 1965 be set aside for opportunity grants for students interested in entering post-secondary technical and vocational programs.

16. Funds be authorized for pilot projects to study the feasibility of reimbursement to employers for unusual costs of supervision, training, and instruction of part-time cooperative students in publically supported education.

17. Ten percent of the sums appropriated for the purposes listed in section 4(a) of VEA 1963 shall be used by the Commissioner of Education for the following purposes:

a. For grants or contracts to colleges and universities and other public or nonprofit private agencies and institutions to pay part of the cost of research, and dissemination of research results in vocational and technical education;

b. For grants or contracts approved by the operating bureau for evaluation, demonstration, and experimental programs in vocational and technical education and for dissemination of results;

c. For grants to States for paying part of the cost of State research coordinating units, State research, evaluation, demonstration, and experimental programs in vocational and technical education, and dissemination of results.

18. The act provide funds and require the Office of Education to be responsible for collecting data and preparing an annual descriptive and ana-

lytical report on vocational education to be submitted to the President and Congress.

19. The act provide that each State conduct a periodic statewide review and evaluation of its vocational education program.

20. The act include within the definition of vocational education "prevocational" education and "employability skills."

21. Section 4(a) of the Vocational Education Act of 1963 be changed to delete the word "area" and that section 8.2 be changed to read: "The term vocational education facilities refers to * * *"

22. The definition of vocational education in the act be expanded to include the responsibility of education for initial job placement and followup for persons who:

a. Have completed or are about to complete a program of education,

b. Require part-time employment to remain in school,

c. Need work experience which is an integral part of an education program.

23. In order to meet current needs, authorization levels for administering and operating programs of vocational and technical education under the act be established as follows:

I. Grants to States and grants authorized by the Commissioner of Education—$500 million. (Students served—8 million.)
  A. Grants to States for: (1) Maintenance and expansion of operating programs; (2) construction; (3) ancillary services; (4) teacher education and professional development—($437,500,000) (50–50).
  B. Grants to be authorized by the Commissioner for: (1) Research, development, evaluation, and experimentation (10 percent)—($50 million) (100). (2) Special programs for teacher education and professional development (25 percent)—($12,500,000) (100).

II. Work-Study Program—$350 million (90–10). (Students served—575,000.)

III. Innovative Programs—$200 million (100). (Students served—175,000.)

IV. Residential Vocational Schools (50)—$200 million (90–10). (Students served—25,000.)

V. Program for Socially, Economically, and Culturally Disadvantaged—$300 million (90–10). (Students served—175,000.)

VI. Vocational Homemaking—$15 million (50–50). (Students served—2 million.)

Total authorization—$1,565 million.
(Total students served—10,950,000 including 2 million in home economics.)

The following recommendations are directed to the attention of the Commissioner of Education. They are recommendations which the council feels will make decided improvement in the status and quality of vocational education.

24. There be established two to four centers for curriculum development in vocational education.

25. The Office of Education provide staff for the National Advisory Committee on Vocational Education and establish guidelines for helping the States make more effective use of State advisory boards.

26. A Learning Corps be established on a pilot basis to provide improved learning experiences for economically disadvantaged youths, particularly, inner-city youths. Such corps would arrange for young people to have the opportunity of living in selected homes in rural, small city, and suburban communities and to enroll in the local schools where skill development for employment would be a part of their educational program.

Growth and Development

The rate of growth in enrollment in vocational education changed sharply with the passage of the Vocational Education Act of 1963 from roughly 4 percent per year prior to the act, to roughly 14 percent per year after the act. The greatest change in enrollment occurs in post-secondary education programs. Extreme variation among the States is noted for every facet of vocational education. For example, the 1966 national average for percentage of secondary school students (grades 9–12) enrolled in vocational education is 25.4, but the variation among the States ranges from 10.5 to 50.6 percent.

Finance

In response to the report of the Panel of Consultants on Vocational Education and the Vocational Education Act of 1963, Federal financing of vocational education changed from roughly $55 million in 1964 to roughly $157 million in 1965, and to $234 million in 1966. The average Federal investment per pupil in 1966 was $24; the amount of the Federal investment for the various occupational categories ranged from a low of $6 to a high of $78 per student enrolled.

Although the Federal funds have been increased and these in turn have stimulated increased expenditures by the States, it is quite evident that the funds have not been commensurate with the need. If occupational opportunities are to be made available to all persons in all communities, it is essential that funding be increased.

Administration

At the Federal level the principal emphasis on vocational education is vested in the Division of Vocational and Technical Education, Bureau of Adult, Vocational, and Library Programs. Changes in the organizational structure of the division have been made from time to time to reflect new emphases defined in the Federal legislation. In addition, the Office of Education has adopted a regional structure as a part of its process of decentralization.

The evidence indicates that the States have been sensitive to the needs for Administrative change, and a few States have made sweeping changes in their administrative structure for vocational education. Although objective evidence is not available concerning the degree of organizational change in local administrative structures, it is known that these staffs have been augmented in many instances to provide for expanded programs of vocational education.

Research

The Vocational Education Act of 1963 provided that 10 percent of the money available for vocational education be reserved to the Commissioner of

Education for use in research in vocational education. Accordingly, $39 million were made available in fiscal years 1965 through 1967 in support of 448 research projects, two research centers (located at the Ohio State University and at the North Carolina State University), and 44 research coordinating units located in the various States.

Predetermined priority areas were used as a basis for distributing research effort over a broad range of the research continuum. Review of the research indicates that some attention was given to each of the areas recommended by the Panel of Consultants on Vocational Education as areas in need of research emphasis.

The research function in vocational education was assigned to the Division of Vocational and Technical Education on July 20, 1964, and reassigned to the newly created Bureau of Research on July 1, 1965. The division primarily concerned with vocational education research, in the Bureau of Research, is the Division of Comprehensive and Vocational Education Research.

Although the act called for 10 percent of the funds to be devoted to research, only 4.8 percent ($10 million) was appropriated for fiscal year 1967, and 6.8 percent ($13.55 million) projected as a budget item for fiscal year 1968.

Teacher Education

The total number of vocational education teachers in the United States was 124,042 for the fiscal year 1966. This number represented an increase of 13.7 percent over the previous year. The number of vocational education teachers is expected to increase by at least 150 percent during the next decade.

It is evident that the States must expand and improve plans for teacher education to meet future requirements. Particular emphasis needs to be placed upon finding new sources of vocational teachers, inservice teacher education, flexibility in State certification, and in the selection and upgrading of teacher educators.

Vocational Guidance

The need for vocational guidance appears as an urgent and critical problem in vocational education. Although nine out of 10 American high schools provide counseling services, only about 50 percent of the high schools provide any form of vocational guidance.

Because realistic occupational selection is a problem of top priority in American education and because a person's occupation is so much a part of his total life, some forms of vocational guidance, including actual work experience, must have continuous emphasis during a large part of a person's educational career.

Despite the demonstrated importance of vocational guidance schools have not moved ahead rapidly in establishing such services for students. It is evident that improvements in both quality and quantity of vocational guidance have been made in recent years, yet at least half of the youth in high school have been denied vocational guidance on an organized basis as a part of their educational career.

Leadership Development

The Vocational Education Act of 1963 provided opportunity to expand leadership development programs for teachers and administrators in vocational education. The first efforts have been quite successful. However, the demand for leadership is continuous and the program needs national stimulation and coordination in order to provide appropriately for State and local needs.

Youth Organization

The value of youth organizations has been demonstrated over the years. Youth organizations provide an extension of vocational instruction of great personal value to youth. Since the panel of consultants made its study of vocational education in 1961–62, six new national youth organizations have been formed.

Curriculum and Instructional Materials

The need for curriculum review, revision, and expansion and the need for related instructional material has never been greater. These perennial problems of vocational education have not received the attention that is necessary. Particularly important is national cooperation and support of curriculum and instructional materials activity, including adequate provision for printing and dissemination of materials produced.

The imperative nature of the demand for instructional materials was recognized in 1961–62, and yet only minimal attention has been devoted to this need at National and State levels.

Contemporary Local Programs

A sample of 109 local schools throughout the Nation indicated that 683 new vocational education courses had been organized since the passage of the act in 1963. Conclusions based on this small sample show a growing interest among schools to provide vocational education program. Although many unsolved problems stand in the way of more rapid development of vocational education, the principal limitations are buildings, equipment, instructional services in general, and funds to support these new developments.

Selected Achievements and Limitations

Part II of the council report indicates in detail the achievements and limitations of vocational education. The following items represent selected highlights.

Achievements

- Vocational education served 31.3 persons per 1,000 population in 1966; an increase of 10.2 over 1961.
- Vocational education is serving 25.4 percent of secondary school students, 3.2 percent of the 20- to 24-year age group, and 2.8 percent of the 25–64-year age group.
- Approximately 80 percent of the persons available for placement were placed in the occupation for which they were trained or in a related area.
- The rate of growth of enrollment in vocational education is approximately 14 percent.
- The most rapid rate of growth occurs in post-secondary institutions.
- Approximately 7 million were enrolled in vocational education programs in fiscal year 1967.

- States are showing unique capability in devising ways to staff teaching positions where teacher shortages exist. Studies of the more productive techniques should reveal patterns for use on a long-term basis and with a desired degree of productivity for the effort expended.
- A new era in research mindedness has developed in vocational education throughout the Nation.
- Research projects (448) during the 3-year period from FY 1965 to FY 1967 have covered a broad area of the research continuum.
- The Federal-State-local process for administration of vocational education (and national emergency) programs has been demonstrated to be sound.
- The stability of vocational education is attributable, in a large part, to the fact that the Federal Government has dealt with only one State agency in this field; namely, the State board for vocational education.
- Increased funding under the Vocational Education Act of 1963 has stimulated development of vocational education at State and local levels.
- Funds available for construction of vocational education facilities have expanded the opportunity for enrollment in vocational education.
- Great strides have been taken in providing leadership opportunities in national, regional, and State conferences and seminars.
- Youth organizations are an integral part of the total program of vocational education. The number of such organizations has grown since 1963, and their contribution to the development of youth is exemplary in the highest degree.
- Vocational guidance is gaining substantial recognition as an essential element of vocational education.

Limitations

- Reporting of vocational education data is suffering from the lack of a fully developed data collection and reporting system.
- Vocational education programs and services have not expanded rapidly in response to the needs of people in metropolitan areas, particularly for the culturally and economically disadvantaged, and residents of slums and ghetto neighborhoods.
- There has been a continued development of teacher education on the basis of occupational categories rather than a concentration on programs serving all services on the campus. This practice does not foster the concept of a broad view of vocational teacher education.
- Failure to provide for research purposes the full 10 percent of the vocational funds, as provided in Public Law 88–210, has created inefficiency in the research program, particularly with reference to continuing projects.
- Limited funds have been applied to research directly related to the operating program. Such research needs could be satisfied in part by reserving part of the total research fund to be allocated to the States and the operating Bureau for experimental, developmental, demonstration, and pilot programs.
- The administrative position of vocational education in the Office of Education is at the same level today as in 1961–62.
- Offices within the Office of Education, but not directly related to vocational education, exercise an unusual amount of control over vocational education.
- The Division of Vocational and Technical Education is understaffed and cannot provide proper leadership and service to the States.
- The total Federal vocational education fund is entirely too small to expand and develop programs in accord with the need.

- Funds have not been allocated from the Vocational Education Acts to provide properly for the needs of the Division of Vocational and Technical Education, U.S. Office of Education. Consequently, services desired by the States are not provided, and instructional materials prepared are not printed or distributed.
- Vocational education funds are forced to compete at a disadvantage with the more favorable funding available through other Government agencies.
- Despite the significant development in leadership activity, the extent of such activity does not measure up to the national need.
- Not all of the students enrolled in vocational education programs belong to their respective youth organizations.
- Curriculum and instructional materials for vocational education apparently have had a very low priority in the U.S. Office of Education; this is not consistent with national needs.
- All youth do not receive the benefits of vocational guidance; a commitment is needed among schools to provide vocational guidance as a recognized part of the total education process.
- Emphasis upon the vocational aspects of guidance does not begin early enough in the educational structure; such emphasis must be continuous but varying in nature with maturation and interest of students.

Social and Manpower Environment of Vocational Education

The rapidly expanding national economy has been accompanied by serious national problems centering around social and economic disparity. Higher educational demands have been made upon workers, and "pockets of poverty" have developed in many parts of the Nation.

Federal legislation was passed to offer economic relief and occupational training. These acts served primarily a remedial function and were not aimed at elimination of the causes of the problem. Later legislation such as the Vocational Education Act of 1963 and the Elementary and Secondary Education Act are structured to attack the root of the problem.

Innovations and New Directions

The total educational system is engaged in a period of evaluation, research, and experimentation as part of the search for new and more effective means to meet contemporary educational requirements. With the growing recognition that many youths are leaving school inadequately prepared to enter the labor market new opportunities are being provided in the way of vocational preparation for a larger portion of the school population.

PART I

REVIEW

Chapter 1

The Panel of Consultants on Vocational Education and the Vocational Education Act of 1963

As the sixties began, the pressure of an unprecedented technological development created opportunities for vocational education to expand its activities to provide more appropriately for persons who were preparing for work and for those who needed both to improve their vocational skills and technical knowledge to compete more effectively for a place in the changing occupational structure.

Vocational education needed to move forward, but more importantly it needed a strong base upon which to operate amid the complexity of the space age. This need was recognized by President John F. Kennedy, who recommended in his message to the Congress on American Education, February 20, 1961, that a Panel of Consultants on Vocational Education be convened to review and evaluate the current program of vocational education and make recommendations for improving and redirecting the program.

The Panel of Consultants on Vocational Education conducted its review and evaluation of vocational education from November 1961 through November 1962.

REPORT OF THE PANEL

The panel cited a number of conclusions and limitations concerning the national program of vocational education. These are reproduced in full on the following pages as introductory material preceding this review of the vocational education program by the Advisory Council on Vocational Education. In chapter 10, the conclusions and limitations identified by the panel of consultants will be used as a base for evaluating the influence of the Vocational Education Act of 1963. The changes which have taken place regarding the conclusions and limitations will serve as practical implications of growth and change due to the influence of the act.

Conclusions and limitations identified by the panel have been extracted from the panel's report and are presented from three reference points: (1) Achievements in vocational education; (2) the people served by vocational education; and (3) the areas of service essential for the proper operation of vocational education.

Conclusions Concerning Achievements in Vocational Education

- The availability of vocational education to youth and adults varies inordinately from State to State.
- Vocational education enrollment, which has increased 2.3 percent annually since 1918, by 1960–61 was serving 13 percent of the 15- to 19-year age group and 2 percent of the out-of-school youth and adults between 20 and 64 years of age.

- The extension program in vocational education in 1960–61 enrolled 283,922 more students than the in-school youth program.
- Over two-thirds of those enrolled in area technical programs were out-of-school youth and adults. Of 620 institutions offering area technician training, 31 percent were community (junior) college or 4-year institutions of higher education.
- In the large cities, the vocational education enrollment represented 115,575 students, 18 percent of the total enrollment in grades 10–12.
- Limited data are available on placement of graduates from scattered surveys made on different bases, with consequent lack of comparability.

  a. *Trade and industrial education.*—Approximately two-thirds of the trade and industrial education graduates in the North Atlantic region found employment in the occupational field for which they were trained. Data for the north-central region show some 56 percent of the graduates similarly employed 5 years after graduation. Percentages are somewhat higher for graduates of cooperative part-time programs.

  b. *Agriculture education.*—A 40-year study indicated that slightly more than 40 percent were employed in farming and related occupations. Other more limited studies show placement percentages of 47 to 67 percent.

  c. *Technician training programs.*—Studies of technicians trained under the National Defense Education Act indicate that half those trained in secondary school programs and two-thirds of those trained in post-high-school programs found employment in the occupational field for which they were trained.

  d. *Distributive education.*—Various limited studies show that 43–60 percent of graduates of distributive education were placed.
- Few data are available on earnings of vocational education graduates, except for graduates trained in NDEA programs.

  a. Graduates of 2-year post-high-school technical training programs earned an average of $4,600, and graduates of 2-year high school programs earned $3,990.

  b. There is some evidence to indicate that vocational agriculture graduates realize significantly more income than farmers without such training.
- Employers report that the distributive education program is a valuable source of competent salespeople and management trainees.
- In its 45-year history, vocational education has responded well to the Nation's needs in two world war efforts, the depression of the 1930's, and the readjustment of World War II veterans.
- Emergency training programs were assimilated into the public vocational program, apparently without harmful effects to the regular program.
- A start has been made, under the Area Redevelopment Act and the Manpower Development and Training Act, to utilize vocational training for improvement of economic conditions.
- Vocational education in the United States has made many contributions to the development of comparable programs in other nations.

Conclusions Concerning the People Served by Vocational Education

- Wide variations exist among the States, and among the schools in the States, in the vocational curriculum offered for high school students.
- The scope of the typical high school program is narrow in relation to needs of the present day:

  a. Rural schools have given little attention to the occupation needs of students who migrate to urban centers.

  b. Large high schools do not offer vocational programs in relation to probable need; only one-fifth of the students attend a school where trade and industrial education is offered, and only one-tenth attend a school where distributive education is offered.
- The States have developed their own administrative patterns for vocational education; programs are found in many different kinds of secondary schools.
- Efficiency of operation depends to a large extent upon teacher education, student selection, and class or shop organization. Planning for plant and equipment is very important in vocational education.
- Many young people in high school need special occupational instruction if they have not been able to adjust to the regular school program and lack interest and motivation.
- A large proportion of the high school dropouts are representative of youth with special needs. Those who leave school early are usually unprepared to enter the labor market, where entry-level proficiency is demanded. Consequently, school dropouts comprise a large proportion of the unemployed.
- Some cities have recognized the special problems of youth and are aware of the necessity of new educational programs.

- Vocational and technical education programs for post-high-school youth and adults have developed rapidly in recent years to meet diverse vocational needs. Curriculum patterns provide an opportunity for students to concentrate upon vocational content and enter the world of work more rapidly.
- Selection of students, enrollment, and cooperation with business and industry and placement of graduates have been satisfactory in post-high-school programs.
- The "area" vocational school concept appears to have many advantages as a post-high-school institution.
- Effective administration of vocational and technical education at the Federal level has been achieved by the Division of Vocational and Technical Education of the U.S. Office of Education.
- Education for vocational competency may require that the workers of the future accept lifelong learning as a normal part of their occupational life.
- More than 2 million persons were enrolled in part-time study, during 1960–61, for the purpose of updating and upgrading themselves in their vocations.

Conclusions Concerning the Areas of Service

Administration, Supervision, Finance

- Administration and supervision influence and exert quality control over the occupational categories of vocational education.
- Proper administration at the local school level will provide the environment necessary for the development of excellence in vocational education.
- Each State has a staff of vocational education consultants who assist local districts with developmental and other problems in vocational education.
- The amount of Federal financing of vocational education and the size of the professional staff at the Federal level are small compared with the funds and staff for other Federal agencies with comparable responsibilities.

Teacher Education

- Although teacher education is required by the Federal acts, each State has been free to develop its own program.
- Teacher education programs for agriculture, home economics, and distributive education have been largely conducted as parts of baccalaureate degree programs.
- Trade and industrial teacher education, because the teacher must have an extensive occupational background, has not usually been conducted in a baccalaureate degree program. The States exhibit extreme variations in the ways and means used to provide teacher education for trade and industrial education.

Curriculum and Instructional Materials

- Instructional materials are limited or nonexistent for many vocational education curriculums. Commercial publishers often cannot justify development of these materials because of limited demand.
- Curriculums have not been developed for many of the newer occupational specialties.
- Local and State vocational education agencies have developed curriculums and instructional materials for only a limited number of vocational education programs. Help from the Federal Government would enable them to expand this work.

Vocational Guidance

- Occupational information and vocational guidance are very important for young people as they progress through school and make choices related to their vocations.
- A great mass of occupational information and some vocational and placement services are available from numerous Government agencies, especially the Department of Labor.
- Despite the special Federal legislative provisions, specialized State supervision, local and State expenditures, and the services available from many agencies—business, industry, labor, agriculture, and others—there is dissatisfaction with the results achieved.

Research

- Although a considerable amount of research has been carried out, it falls far short of meeting current needs.
- Some compilations of completed research projects have been made at the national level—largely graduate-student these—but no comprehensive reporting has been done, and little has been done with respect to coordination of research activities.
- Research projects in vocational and technical education have largely been confined to those of normative-survey type, with little attention paid to experimental research under controlled conditions.

Limitations Concerning Achievements in Vocational Education

- Vocational education is not sufficiently sensitive to supply-and-demand factors in the labor force. In comparison with present and projected needs of the labor force, the enrollments of in-school youth and out-of-school youth and adults are very small.
- Vocational education is not available in many schools. When enrollment is compared with age groups to be served by vocational education, there is generally (*a*) a gross lack of availability nationally, and (*b*) a wide variation or availability among the States.
- Opportunity for vocational choice is greatly limited. A special study of six States revealed that, although two-thirds of the schools offered one or more vocational programs for in-school youth, nearly half of the schools did not offer home economics or agriculture, nearly 90 percent did not offer trade and industrial education, and nearly 95 percent did not offer programs of distributive education.
- Service to the urban population is meager. The vocational enrollment of 18 percent of youth in high schools in the large cities is inadequate in the great population centers.
- Although some vocational schools have well-organized placement services for graduates, many do not provide this essential service on an organized basis. There are few organized programs for systematic followup of students after graduation or placement.
- Development of placement data on a nationwide basis is hampered by the lack of standard procedures in the reporting of placements.
- The limited evidence available indicates that placements from many programs may be somewhat lower than desirable. However, when interpreting apparently low placement data, it should be remembered that many graduates enter military service or go on to further schooling.
- The contributions of vocational education in international programs are small in comparison to probable need. Vocational educators are not generally involved in the initial planning for economic aid to other nations.

Limitations Concerning the People Served by Vocational Education

- Programs for high school youth are limited in scope and availability. About half the high schools offering trade and industrial education have four or fewer programs, and these are closely related to single occupations. The problem of availability is in part a function of the size of the school; it is even more a function of the commitment of the school to occupational preparation as an element of the instructional program.
- High schools have failed to provide basic training programs for groups of occupations. Limiting instruction to single occupations reduces the scope of a school's program. Federal aid has not generally been available to support the development of instruction for groups or clusters of occupations.
- Long-term planning at the State and local levels must be improved. Although many excellent examples of planning can be cited, major problems exist in the rural schools and in the high schools of the large cities. Statewide coordination involving all groups concerned with the total program of training and employment is imperative.
- Research and study of operational efficiency have been neglected. Raising instructional effectiveness depends in large measure on research in operational efficiency, the implementation of research findings, and better utilization of instructional devices such as programed learning.
- High school programs must be improved to meet the needs of emergency conditions. Programs must be restructured or expanded to reflect employment needs of the economy. Such programs must be kept up to date in terms of changing occupational conditions.

Youth With Special Needs

- Adequate provision has not been made in the Nation's vocational education program for youth with special needs. In many respects vocational education has been as selective as has academic education with reference to accepting students.
- Aside from the provisions of the continuation program which for a time contributed to the educational development of these young people, the vocational program is not prepared to meet their needs. This does not mean that vocational education has not recognized the need or that the public schools have not provided services for these young people. The fact does remain, however, that the dimensions of the problem have so expanded that new and appropriate attention is demanded. With respect to this problem, the panel makes specific recommendations in part III of this report.
- The value and potential contribution of these young people to their own welfare and to that of society, and the national economy and security should be recognized and respected.

Adult Programs

- Extreme variation in curriculum offerings indicates that, in many States, post-high-school youth and adults do not have an opportunity for vocational instruction. In part, this situation may be due to the lack of leadership from the Federal program to stimulate such preemployment programs.
- Curriculum offerings tend to be concentrated in the popular technologies. More than 40 percent of the curriculum offerings are to be found in electronics. It is obvious that other technologies have not had appropriate development in post-high-school instruction.
- Insufficient funds and restrictive provisions in present Federal legislation have inhibited development of certain types of programs. For example, programs of training for office occupations have rarely been eligible for Federal assistance.
- In nearly every occupational field, employment opportunities exceed the availability of post-high-school preemployment instruction. Instructional needs for trained manpower exceed the total capacity of the present public school program to provide for these manpower needs.
- Much evidence is available to indicate that more people will spend more time in continuing their education in relation to specific job requirements. Yet the program of continuing education is neither sufficiently broad nor extensive to meet this need.
- The public school program for out-of-school youth and adults includes a wide range of subject matter, but the range must be vastly expanded in the future.
- Many workers who desire occupational training have not been able to obtain it because of inaccessibility of appropriate programs.
- Many educators in positions of leadership have failed to recognize the importance of vocational education for employed persons and have not promoted its development. Lack of initiative and imagination in exploring new occupational fields has tended to restrict program offerings to those which have been commonly provided in the past.
- Related training for apprentices at school has had severe limitations:

  a. Adequate classroom space and appropriate instructional equipment and materials have not been available for many types of courses. These inadequacies have caused some programs to be removed from the public schools.

  b. Craftsmen used as teachers for related training and skill training of both apprentices and journeymen have not been afforded adequate opportunities to learn modern instructional methods.

Limitations Concerning the Areas of Service

Administration, Supervision, Finance

- Many school districts are too small to provide a diversified offering of vocational training or to provide proper supervision of vocational teaching activities.
- The State plan for vocational education may not be effective where those affected by its provisions have not been involved in its preparation or when it is not kept up to date.
- The Federal Government, which has encouraged and stimulated the development of vocational training, today provides only a minor portion of the support for this educational activity.
- The administration of vocational education at the Federal level is handicapped by a status which does not permit its maximum effectiveness.

Teacher Education

- All vocational teacher-education programs need provisions for frequent review, evaluation, upgrading, and redirection. Although the specific problems are different in each of the occupational categories, effective teacher education is a major asset in vocational education and should not become static and routine.
- Teacher-education programs should reflect newer ideas of teaching and learning. One of the major problems in adapting research findings to specific teacher-education programs is to reduce the timelag between research findings and actual utilization of data.
- The Federal leadership in vocational education does not occupy a position where it can be fully effective in liaison contacts and leadership functions.

Curriculum and Instructional Materials

- A national plan for coordinating the development of curriculums, courses of study, and instructional materials is needed. This will require interstate and Federal cooperation, with the main coordination responsibility in the Federal office.
- Programs of vocational education are handicapped by lack of knowledge of the existing resources within the States and the lack of a plan for a nationwide group of instructional materials laboratories capable of meeting the needs.
- A plan for close cooperation must be worked out between the instructional materials laboratories and other agencies which public instructional materials.

Such a plan should help to utilize more fully the materials developed by all and to reduce the overall cost.

- Activities of the instructional materials laboratories must be coordinated with research agencies dealing with this field. This might well involve locating the laboratories and research agencies in proximity to each other.
- Substantially increased financial support for programs of curriculum and instructional materials development is necessary, as well as increased attention to the training of professional personnel for curriculum and instructional materials development.

Vocational Guidance

- There is much misunderstanding concerning the nature of vocational guidance in its relationship to occupational information and other phases of counseling activities.
- Opportunities to provide vocational guidance are not fully realized. For whom is vocational guidance intended? Is there an appropriate amount of vocational guidance for every student? What is the role of the school, the home, the church, and other institutions?
- Much vocational guidance is shallow. There is too much guidance of a clerical type, an information giving and receiving process with little concern or knowledge of the demands of occupations and the world of work. How, and to what extent, is the occupational information process related to personal and social guidance? If one has never worked in business or industry, how well equipped is he to guide or inform someone else?
- The competencies required of personnel in guidance are not well understood. What qualifications make the effective counselor? To what extent can the understanding teacher help?
- A tendency toward an aristocracy of guidance seems to exist. Is too much of the guidance effort devoted to seeking the talented? Are teachers and counselors themselves oriented strongly to higher education, prone to favor the collegebound? To what extent are the teachers' marks predeterminants of other courses, occupations, and social status?
- Vocational guidance does not avail the potential army of dropouts. How does guidance help the delinquent, the reluctant, the culturally deprived? More and better education of all types at all levels for all citizens is the current and predicted demand. To what extent will guidance promote this? Of what importance to the Nation is a meaningful program of occupational information and vocational guidance?

Research

- Little money has been available from any source to support research in vocational education, yet few fields of inquiry would appear more promising in terms of benefits to individuals as well as to society.
- The leadership of vocational education has not been committed to necessity for continuous research. Those who control vocational education funds, preoccupied with immediate operational responsibilities, often do not attach importance to activities beyond those necessary in the current program.
- A considerable amount of the research has been superficial, with little depth or penetration.
- Relatively little research has pooled the resources of the different disciplines that have bearing on vocational and technical education, such as sociology, economics, psychology, and labor market analysis.[1]

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[1] U.S. Department of Health, Education, and Welfare, Office of Education. "Education for a Changing World of Work:" Report of the Panel of Consultants on Vocational Education (*OE–80021*). Washington: *U.S. Government* Printing Office, 1964, pp. 108–205.

THE VOCATIONAL EDUCATION ACT OF 1963

The report of the Panel, "Education for a Changing World of Work," was used as a basis for drafting the Vocational Education Act of 1963.[2]

The 1963 act focused on services to people—meeting the needs of individuals—in contrast to prior acts which only provided for training personnel in a few occupational categories. The effect of this shift in emphasis was to remove artificial barriers to flexibility in student programing, which had developed through the use of occupational categories. The intent of the new act was to provide services to people without respect to predetermined occupational groupings. Occupations designated as professional occupations (usually those requiring a baccalaureate degree) were not to be included among the occupations for which training was to be provided. With this exception, the act suggested, in effect, that if a training need existed, funds were available to take care of the need.

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[2] Public Law 88–210, 88th Cong., Dec. 18, 1963.

As a result the Vocational Education Act of 1963 designated six purposes for which Federal funds could be used. They were: (1) Vocational education for persons attending high school; (2) vocational education for persons who have completed or left high school and who are available for full-time study in preparation for entering the labor market; (3) vocational education for persons who have already entered the labor market and who need training or retraining to achieve stability or advancement in employment; (4) vocational education for persons who have academic, socioeconomic, or other handicaps that prevent them from succeeding in the regular vocational education program; (5) construction of area vocational education school facilities; and (6) ancillary services and activities to assure quality in all vocational education programs, such as teacher training and supervision, program evaluation, special demonstration and experimental programs, development of instructional materials, and State administration and leadership, including periodic evaluation of State and local vocational education programs and services in light of information regarding projected manpower needs and job opportunities.

Allotments to the States were based on the number of persons in the various age groups needing vocational education and the per capita income within the States. The States were required to provide matching funds at least equal to the Federal allotment. Ten percent of the sums appropriated were to be used to make grants to colleges, universities, public and private nonprofit agencies, State boards, and to local educational agencies to pay part of the costs of research, training programs, experimental, developmental, or pilot programs to meet the special needs of vocational education. Research funds were reserved for allocation through the Commissioner of Education. Ninety percent of the funds were allotted to the States to expand, improve, and develop new programs in vocational education. The act stipulated that 33⅓ percent for years prior to July 1968, and 25 percent thereafter, of the State allotment shall be used only for construction of area vocational school facilities or for vocational education for persons who have completed or left high school. It was also required that at least 3 percent of the allotment shall only be used for ancillary services to improve vocational education.

SUMMARY AND IMPLICATIONS

Appointment of the panel of consultants renewed the visibility of vocational education in the eyes of the Congress and the Nation, and pointed to the social and economic potential of vocational education in relation to achieving national goals.

The report of the panel cited conclusions based upon a comprehensive study of vocational education and placed an emphasis upon some of the limiting factors which made it difficult for vocational education to exert its full social and economic effort.

The Congress used the report of the panel extensively in the preparation of the Vocational Education Act of 1963, and in effect simulated a number of forces designed to improve and expand the vocational education program of the Nation.

Among the many provisions of the Vocational Education Act of 1963 was one requiring periodic review of vocational education. This review was initiated by the Advisory Council on Vocational Education. Chapter 2 describes the status of vocational education as the council found it during the study in 1967.

Chapter 2

Growth and Development of Vocational Education

Vocational education has grown significantly in enrollment since the review by the panel of consultants in 1962, and many new developments are apparent to the observer in 1967. This chapter is concerned primarily with enrollment status and trends. A variety of comparisons are made showing national, regional, and State changes.

Enrollments are shown from the standpoint of two major elements, occupational categories, and educational levels. Such comparisons reflect the influence of the Smith-Hughes Act, the George-Barden Act (as amended), and the Vocational Education Act of 1963.

In addition, the chapter includes comparative data concerning schools, teachers, and occupational areas served by vocational education.

ENROLLMENT

Statistical data concerning enrollment in vocational education were reported on the basis of occupational classifications during the period 1960–64. Beginning with fiscal year 1965, the first year for which data were available showing the influence of the Vocational Education Act of 1963, data were also provided showing enrollment of persons in the four categories based on service to people.

The full impact of the Vocational Education Act of 1963 does not begin to show up in the data reported from the States until fiscal year 1966. Funds were not available until late in 1964, and some States were not able to fully organize and develop new programs prior to the end of the reporting period for fiscal year 1965. Thus, the data for 1965 represent only a partial influence upon the States. Program growth did occur in nearly all of the States, however, and in nearly all of the areas.

Total Enrollment in Vocational Education

Table 1 shows the total growth of the program of vocational education for the years 1960–67. A substantial increase in the percentage of enrollment for 1965 over 1964 is due primarily to the inclusion of vocational education for office occupations. This accounted for an additional enrollment of 730,904 persons.

Table 2 shows a comparison of the fiscal year 1966 enrollment in vocational education per 1,000 population with that of 1961. Four of the States had a decrease in enrollment per 1,000 population, whereas the remaining 46 States plus the District of Columbia increased the enrollment per 1,000 population. The total national increase in enrollment during the period fiscal year 1965–66 was 10.2 per 1,000 population. Figure 1 shows the data for fiscal year 1966 in the form of a map of the United States. The States vary considerably in the extent to which vocational education reaches their population.

TABLE 1.—*Total enrollment in vocational education,[1] fiscal years 1960-67*

Fiscal year	Total enrollment	Percentage increase
1960	3,768,149	....
1961	3,855,564	2.3
1962	4,072,677	5.6
1963	4,217,198	3.5
1964	4,566,390	8.3
1965 [2]	5,430,611	18.9
1966 [3]	6,070,059	11.7
1967	[4] 6,880,000	13.3

[1] U.S. Department of Health, Education, and Welfare. Digest of Annual Reports, 1960–63, Review of Activities in Federally Aided Programs, Vocational and Technical Education, 1964. Washington: U.S. Government Printing Office.

[2] Data furnished by the Division of Vocational and Technical Education, Bureau of Adult, Vocational, and Library Programs, U.S. Office of Education, Sept. 1, 1967. Includes enrollment of 730,904—Office Occupations. (Hereinafter cited as data furnished by the Division of Vocational and Technical Education.)

[3] Data furnished by the Division of Vocational and Technical Education. Includes enrollment of 1,237,086—Office Occupations.

[4] Projected.

Regional Comparisons

The nine regions established by the U.S. Office of Education in the process of decentralizing some of its activities are as follows:

Region I—Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont.

Region II—Delaware, New Jersey, New York, Pennsylvania.

Region III—District of Columbia, Kentucky, Maryland, North Carolina, Virginia, West Virginia, Puerto Rico, Virgin Islands.

Region IV—Alabama, Florida, Georgia, Mississippi, South Carolina, Tennessee.

Region V—Illinois, Indiana, Michigan, Ohio, Wisconsin.

Region VI—Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota.

Region VII—Arkansas, Louisiana, New Mexico, Oklahoma, Texas.

Region VIII—Colorado, Idaho, Montana, Utah, Wyoming.

Region IX—Alaska, Arizona, California, Guam, Hawaii, Nevada, Oregon, Washington, American Samoa.

In analyzing the relationship between total vocational education enrollments and the population within the region in table 3, it was found that the mean enrollment per 1,000 population was 31.3. The range varied from 21.3 in region II to 41.6 in region IV. Comparisons between the nine regions are shown in figure 2.

TABLE 2.—*Total population, vocational education enrollment, and enrollment per 1,000 population: United States, fiscal years 1966 and 1961 compared*

State	Total[1] population, July 1, 1965	Total[2] vocational education enrollment, fiscal year 1966	Enrollment per 1000 population	
			1966	1961[3]
Totals	193, 775, 000	[4] 6, 070, 059	31. 3	21. 1
Alabama	3, 486, 000	124, 090	35. 6	29. 9
Alaska	267, 000	6, 442	24. 1	8. 7
Arizona	1, 575, 000	45, 116	28. 6	21. 3
Arkansas	1, 941, 000	92, 724	47. 8	49. 4
California	18, 403, 000	748, 009	40. 5	27. 9
Colorado	1, 949, 000	73, 119	37. 5	30. 3
Connecticut	2, 830, 000	54, 246	19. 2	12. 3
Delaware	503, 000	13, 222	26. 2	23. 1
Florida	5, 796, 000	272, 844	47. 1	26. 0
Georgia	4, 391, 000	192, 715	43. 9	40. 2
Hawaii	710, 000	16, 525	23. 3	28. 9
Idaho	693, 000	21, 761	31. 4	23. 4
Illinois	10, 641, 000	153, 392	14. 4	11. 3
Indiana	4, 893, 000	78, 515	16. 0	15. 5
Iowa	2, 758, 000	77, 741	28. 2	22. 6
Kansas	2, 248, 000	52, 971	23. 6	18. 4
Kentucky	3, 173, 000	93, 365	29. 4	21. 6
Louisiana	3, 560, 000	110, 117	30. 9	28. 5
Maine	986, 000	10, 107	10. 2	9. 7
Maryland	3, 534, 000	134, 023	37. 9	8. 3
Massachusetts	5, 361, 000	143, 147	26. 7	13. 1
Michigan	8, 317, 000	265, 332	31. 9	17. 4
Minnesota	3, 562, 000	128, 367	36. 0	27. 6
Mississippi	2, 309, 000	94, 990	41. 1	44. 0
Missouri	4, 492, 000	94, 261	21. 0	15. 5
Montana	703, 000	14, 390	20. 5	14. 3
Nebraska	1, 459, 000	50, 358	34. 5	22. 1
Nevada	434, 000	14, 935	34. 4	26. 5
New Hampshire	673, 000	8, 709	12. 9	12. 2
New Jersey	6, 781, 000	80, 936	11. 9	5. 0
New Mexico	1, 014, 000	20, 667	20. 3	11. 9
New York	18, 106, 000	496, 434	27. 4	11. 2
North Carolina	4, 935, 000	243, 013	47. 4	31. 5
North Dakota	652, 000	21, 389	32. 8	26. 7
Ohio	10, 241, 000	208, 195	20. 3	11. 8
Oklahoma	2, 448, 000	78, 621	32. 1	31. 4
Oregon	1, 938, 000	50, 098	25. 9	18. 8
Pennsylvania	11, 583, 000	197, 018	17. 0	9. 1
Rhode Island	891, 000	8, 041	9. 0	9. 9
South Carolina	2, 550, 000	127, 004	49. 8	46. 0
South Dakota	686, 000	16, 696	24. 3	20. 0
Tennessee	3, 850, 000	118, 424	30. 8	30. 8
Texas	10, 591, 000	503, 531	47. 5	38. 3
Utah	994, 000	50, 285	50. 6	30. 0
Vermont	404, 000	15, 177	37. 6	15. 9
Virginia	4, 404, 000	157, 324	35. 7	26. 9
Washington	2, 973, 000	163, 765	55. 1	37. 9
West Virginia	1, 815, 000	49, 309	27. 2	16. 8
Wisconsin	4, 140, 000	177, 678	42. 9	26. 0
Wyoming	330, 000	8, 100	24. 5	20. 9
District of Columbia	802, 000	9, 368	11. 7	11. 2

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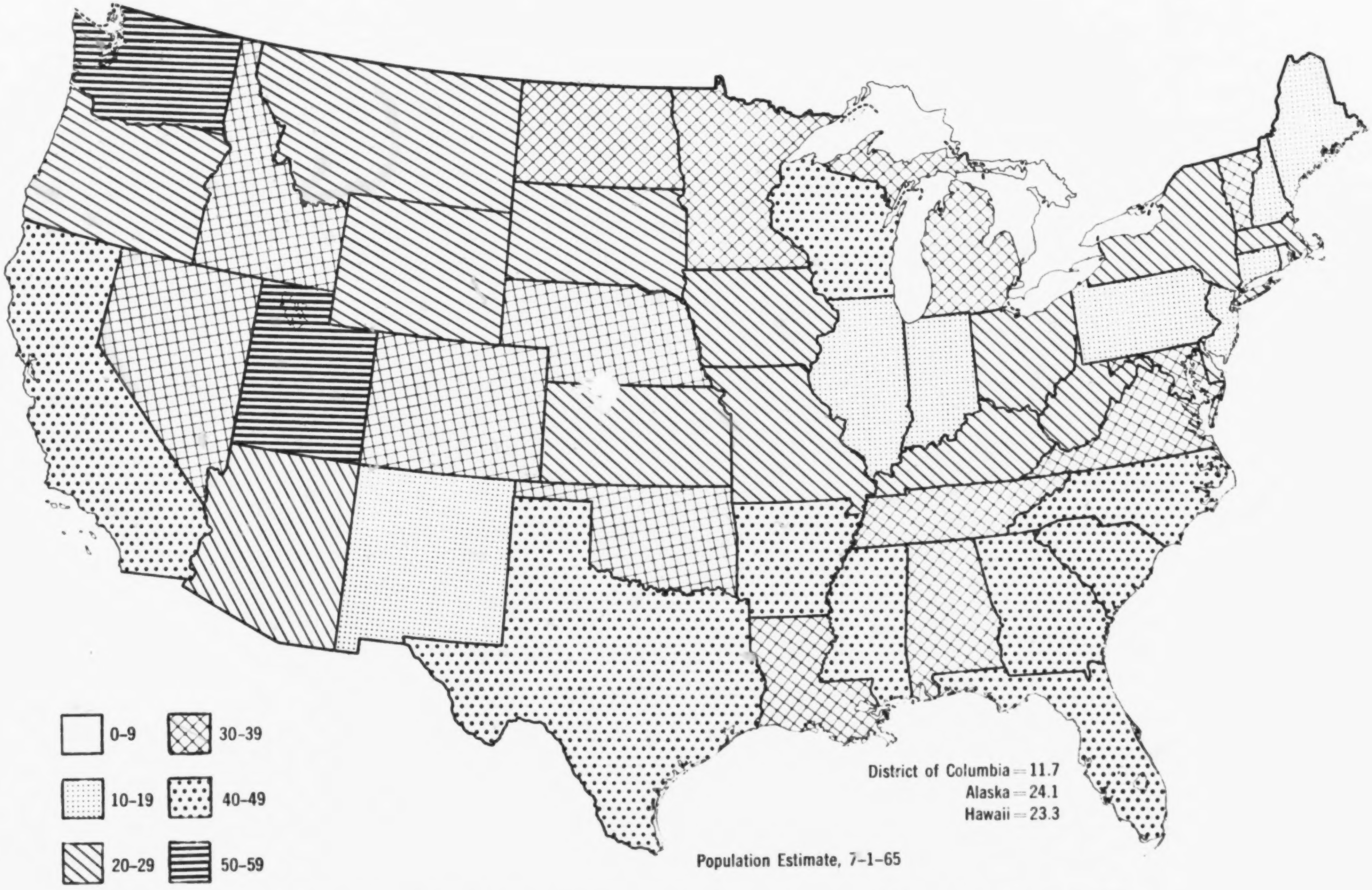
[1] U.S. Department of Commerce. "Population Estimates," series P–25, No. 350, Oct. 5, 1966, table 1.

[2] Data furnished by the Division of Vocational and Technical Education.

[3] "Education for a Changing World of Work," op. cit. pp. 71–72.

[4] Includes enrollment for Guam, Puerto Rico, and Virgin Islands.


0–9
30–39
10–19
40–49
20–29
50–59

District of Columbia = 11.7
Alaska = 24.1
Hawaii = 23.3

Population Estimate, 7–1–65

FIGURE 1.—Vocational education enrollment in the United States per 1,000 population, fiscal year 1966.

TABLE 3.—*Relationship of population within U.S. Office of Education region and total vocational education enrollment, fiscal year 1966*

Region	Population, July 1, 1965	Total vocational education enrollment, fiscal year 1966	Enrollment per 1,000 population
Total	193, 775, 000	6, 070, 059	31. 3
I	11, 145, 000	239, 427	21. 5
II	36, 973, 000	787, 610	21. 3
III	18, 663, 000	768, 609	41. 2
IV	22, 382, 000	930, 067	41. 6
V	38, 232, 000	883, 121	23. 1
VI	15, 875, 000	441, 783	27. 9
VII	19, 554, 000	805, 660	41. 2
VIII	4, 669, 000	167, 655	35. 9
IX	26, 300, 000	1, 046, 127	39. 7

Enrollment by Occupational Categories

The following summary shows the growth of the program between fiscal years 1964 and 1966:

	Percent
Agriculture	+5. 4
Distributive occupations	+25. 8
Health occupations	+41. 8
Home economics occupations	−6. 15
Office occupations	([1])
Technical occupations	+14. 7
Trades and industry	+18. 7
Total increase	+32.9

[1] Not included in statistical data until 1965.

Total enrollments for fiscal year 1966 in vocational education by occupational categories are displayed in table 4. The percentage change in enrollment for 1965–66 is indicated for each area. All categories showed enrollment increases except home economics. However, home economics has the largest enrollment number of all the categories. A more detailed analysis of total enrollment by occupational category follows in tables 5 through 11.

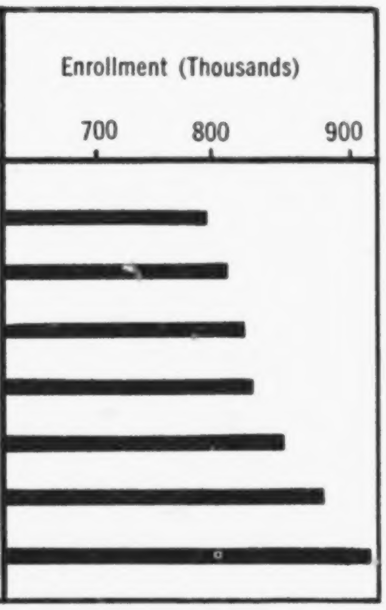
TABLE 4.—*Total enrollment in vocational education by occupational category, fiscal year 1966*

Occupational category	Total enrollment in occupational category	Percent of total vocational education enrollment	Percent change in enrollment fiscal years 1965–66
Agriculture	907, 354	15. 0	+2. 2
Distributive	420, 426	6. 9	+26. 1
Health	83, 677	1. 4	+25. 5
Home economics	1, 897, 670	31. 2	—10. 6
Office	1, 238, 043	20. 4	+69. 4
Technical	253, 838	4. 2	+12. 4
Trades and industry	1, 269, 051	20. 9	+16. 6

Agricultural Education

TABLE 5—*Enrollment in agricultural education, fiscal years 1960–66*

Year	Enrollment*	Percent Increase
1960	796,237	
1961	805,322	+1.1
1962	822,664	+2.1
1963	827,827	+0.6
1964	860,605	+3.9
1965	887,529	+3.1
1966	907,354	+2.2



*U.S. Department of Health, Education, and Welfare. Digest of Annual Reports, 1960–63, Review of Activities in Federally Aided Programs, Vocational and Technical Education, 1964. Washington. (Data for fiscal years 1965–66 furnished by the Division of Vocational and Technical Education.).

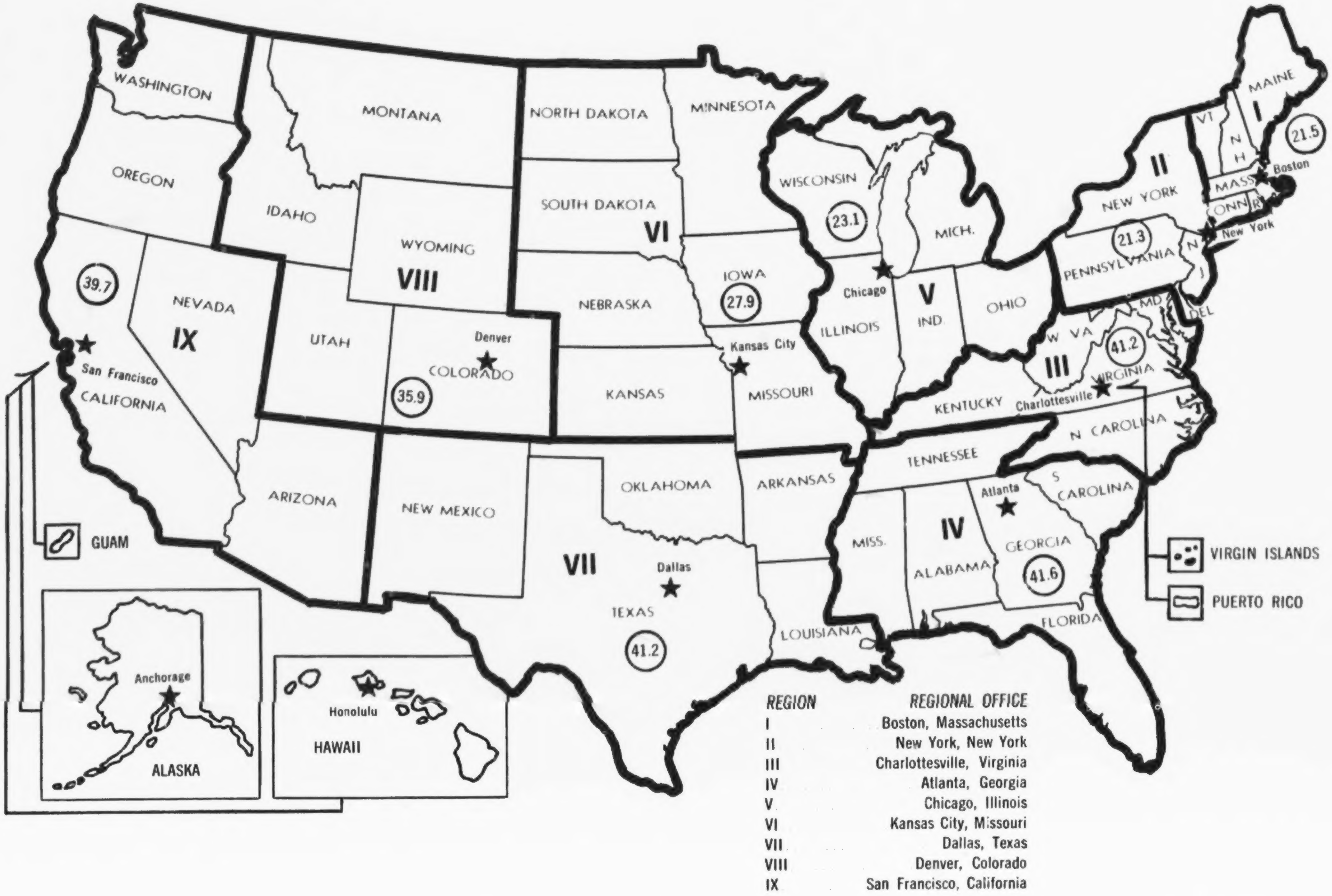
Increase in enrollment in agricultural education has developed largely because of the broadening of training responsibilities made possible by the Vocational Education Act of 1963. The act broadened the purpose of vocational education in agriculture to include training for any occupation in which knowledge and skill in agricultural subjects are involved.

Tentative enrollment figures for fiscal year 1966 indicate that 112,338 persons were enrolled in vocational programs of training in agriculture for off-farm occupations.

Post-high-school enrollment in 1966 was 5,987. In 1964 there were no programs available for post-high-school students authorized under the various vocational education acts.

The complexity of modern farming has resulted in increasing enrollments of adult and young farmers, especially in the area of farm business management.

Some increase in enrollment can be attributed to the development of new specialized training programs in occupations involving knowledge and skill in agricultural subjects in the urban areas of the country. For example, 35 exemplary programs to train for ornamental horticulture occupations are now in operation in the cities of Ohio.


WASHINGTON
OREGON
CALIFORNIA
NEVADA
IX
39.7
San Francisco
IDAHO
MONTANA
WYOMING
VIII
UTAH
COLORADO
Denver
35.9
ARIZONA
NEW MEXICO
NORTH DAKOTA
SOUTH DAKOTA
VI
NEBRASKA
KANSAS
MINNESOTA
IOWA
27.9
Kansas City
MISSOURI
OKLAHOMA
TEXAS
VII
Dallas
41.2
ARKANSAS
LOUISIANA
WISCONSIN
23.1
MICH.
Chicago
ILLINOIS
V
IND.
OHIO
KENTUCKY
TENNESSEE
MISS.
IV
ALABAMA
GEORGIA
Atlanta
41.6
FLORIDA
S CAROLINA
N CAROLINA
W VA
III
41.2
VIRGINIA
Charlottesville
MD
DEL
PENNSYLVANIA
21.3
NEW YORK
II
N J
New York
MAINE
I
21.5
VT
N H
MASS
CONN
R I
Boston
GUAM
ALASKA
Anchorage
HAWAII
Honolulu
VIRGIN ISLANDS
PUERTO RICO

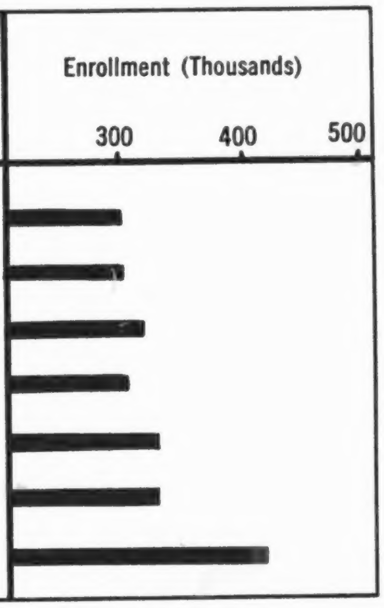
REGION	REGIONAL OFFICE
I	Boston, Massachusetts
II	New York, New York
III	Charlottesville, Virginia
IV	Atlanta, Georgia
V	Chicago, Illinois
VI	Kansas City, Missouri
VII	Dallas, Texas
VIII	Denver, Colorado
IX	San Francisco, California

FIGURE 2.—Relationship of population within USOE region and total vocational education enrollment.

Distributive Education

TABLE 6.—*Enrollment in distributive education, fiscal years 1960–66*

Year	Enrollment*	Percent Increase
1960	303,784	
1961	306,083	+0.8
1962	321,065	+4.9
1963	309,593	−3.6
1964	334,126	+7.9
1965	333,342	−0.2
1966	420,426	+26.1



*Source of data same as shown in table 5.

The increase in distributive education enrollment in 1966 was due primarily to the extension of authority for federally reimbursable distributive education to include preemployment instruction. Also reflected in the increase is the continued expansion of cooperative distributive education programs.

The proportion of full-time students to part-time students (adults) has increased from 17.3 percent in 1964 to 27.8 percent of the distributive education enrollment in 1966.

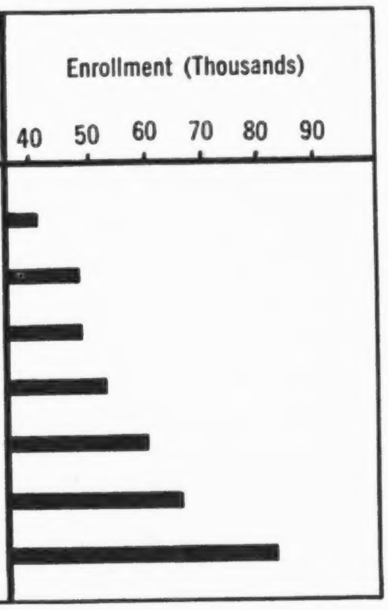
Availability of Federal dollars (beyond the relatively small George-Barden authorization) has allowed the States to intensify their efforts in offering instruction in distribution.

Health Occupations

The increase in enrollment in 1966 was due in part to the availability of funds from the Vocational Education Act of 1963, which enabled school districts to move ahead in developing programs. Also, during 1965 and 1966, needs of the entire health field became quite visible due to national attention to this area. The White House Conference on Health in 1965, and other national and regional meetings, brought into focus the seriousness of the situation and the extreme need for qualified personnel. In the process of bringing the various forces together to improve conditions, programs in vocational education were developed in the health field which represented an increase in enrollment of 25 percent in 1 year.

TABLE 7.—*Enrollment in health occupations education, fiscal years 1960–66*

Year	Enrollment*	Percent Increase
1960	40,250	
1961	47,264	+17.4
1962	48,985	+ 3.6
1963	53,957	+10.2
1964	59,006	+ 9.4
1965	66,672	+13.0
1966	83,677	+25.5

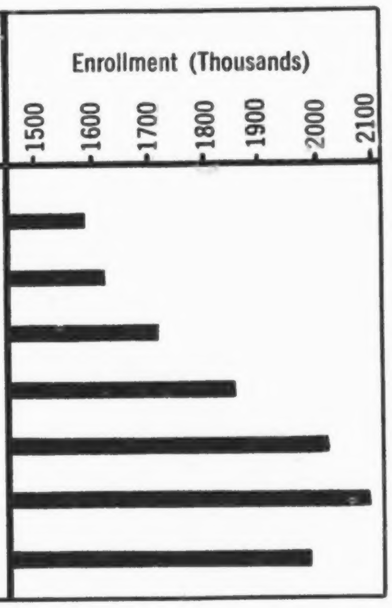


*Source of data same as shown in table 5.

Home Economics

TABLE 8.—*Enrollment in home economics education, fiscal years 1960–66*

Year	Enrollment*	Percent Change
1960	1,588,109	
1961	1,610,334	+1.4
1962	1,725,660	+7.2
1963	1,839,450	+6.6
1964	2,022,138	+9.9
1965	2,098,520	+3.8
1966	1,897,670	−9.6



*Source of data same as shown in table 5.

The decrease in enrollment in home economics education for 1966 is due mainly to reporting problems. In 1965, some States misinterpreted the report form and reported total enrollment of students in home economics in seventh and eighth grades, not just the enrollment of students in programs that met the standards of vocational home economics.

Because there is no increase in Federal funds for the homemaking phase of the program, States find it difficult to expand this aspect of the program.

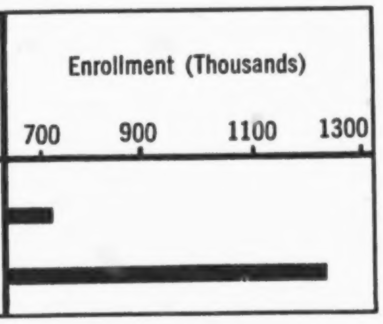
The number of persons enrolled in classes preparing for gainful employment in occupations which utilize knowledge and skills of home economics subject matter increased 195 percent in 1966 over 1965. This increase represented a change from 14,169 in 1965 to 41,846 in 1966. The number of male students increased 367 percent, and of female students, 169 percent.

All but three States, the Virgin Islands, and Guam reported offerings in occupational preparation—10 additional States reported occupational programs in 1966. Since the passage of the Vocational Education Act of 1963, States have moved forward in developing the occupational phase of home economics, and continued increases are to be expected.

Office Occupations

TABLE 9.—*Enrollment in office occupations education, fiscal years 1965 and 1966*

Year	Enrollment*	Percent Change
1965	730,904	
1966	1,238,043	+69.3



*Data supplied by the Division of Vocational and Technical Education.

In 1962, 13 States provided some form of State supervision for office occupations education, and about 18,000 students were enrolled in classes in office occupations that could have qualified for reimbursement under the terms of the present legislation. Encouragement due to the Vocational Education Act of 1963 caused many office occupations classes to be reoriented to vocational education standards. By 1966, each of the States had either provided supervision for office occupations education or had authorized such supervision.

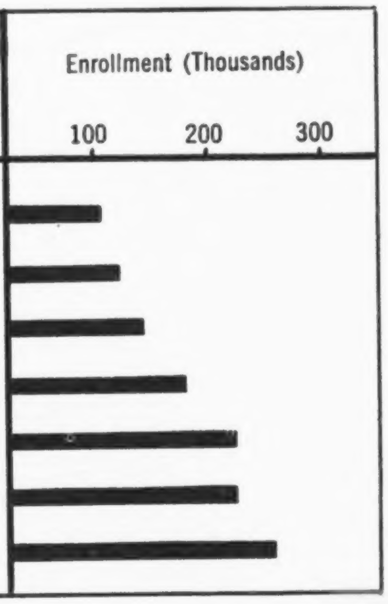
National leadership, provision for supervision, and availability of supporting funds have contributed directly to the growth of office occupations education. Development of curriculum guides, leadership conferences, and general professional leadership activity at Federal and State levels have provided occupationally oriented office education for over a million persons who otherwise would not have had this education.

Technical Education

Enrollment in technical education increased approximately 118.4 percent from 1960 through 1964.

TABLE 10.—*Enrollment in technical education, fiscal years 1960–66*

Year	Enrollment*	Percent Change
1960	101,279	
1961	122,952	+21.4
1962	148,920	+21.1
1963	184,595	+23.9
1964	221,241	+19.8
1965	225,737	+ 2.0
1966	253,838	+12.4



*Source of data same as shown in table 5.

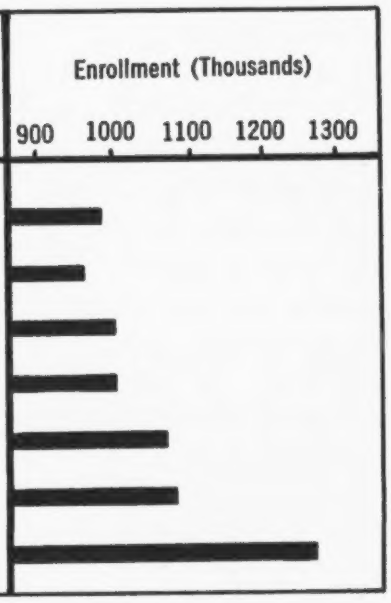
Decline in enrollment in 1965 was due to a change in reporting procedures.

Enrollments in electronic data processing programs, which previously were reported under technical education, were reported in 1965 and 1966 under office occupations.

Trades and Industry

TABLE 11.—*Enrollment in trade and industrial education, fiscal years 1960–66*

Year	Enrollment*	Percent Change
1960	980,490	
1961	963,609	− 1.7
1962	1,005,383	+ 4.3
1963	1,001,776	− 0.4
1964	1,069,274	+ 6.7
1965	1,087,807	+ 1.7
1966	1,269,051	+16.6



* Source of data same as shown in table 5.

An increase of 16.6 percent in trade and industrial education enrollment in 1966 over 1965 is the net result of a number of forces at work. New area voca-

TABLE 12.—*Vocational education enrollment summary, by occupational category and educational level, fiscal year 1966* [1]

Educational category	Total	Secondary		Post-secondary		Adult		Special needs	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent
Agricultural	907, 354	510, 279	56. 2	5, 987	0. 7	390, 388	43. 0	700	0. 1
Distributive	420, 426	101, 728	24. 2	15, 833	3. 8	301, 116	71. 6	1, 749	. 4
Health occupations	83, 677	9, 793	11. 7	36, 496	43. 6	37, 065	44. 3	323	. 4
Home Economics	1, 897, 670	1, 280, 254	67. 5	2, 652	. 1	602, 363	31. 7	12, 401	. 6
Office occupations	1, 238, 043	798, 368	64. 5	165, 439	13. 4	271, 149	21. 9	3, 087	. 2
Technical	253, 838	28, 865	11. 1	100, 151	39. 5	124, 730	49. 1	92	. 4
Trade and industry	1, 269, 051	318, 961	25. 1	115, 539	9. 1	803, 901	63. 3	30, 650	2. 4
Total	6, 070, 059	3, 048, 248	50. 2	442, 097	7. 3	2, 530, 712	41. 7	49, 002	0. 8

[1] Data furnished by the Division of Vocational and Technical Education.

tional schools were opened that offered programs predominantly in trade and industrial education. A noticeable increase in public relations activity throughout the Nation has brought these programs to the attention of a larger number of people. Organization of Manpower Development and Training programs has encouraged States to organize similar programs on a continuing basis. Increased appropriations from the Vocational Education Act of 1963 have made it possible to finance a number of new programs. Increased demand for goods and services, and emphasis upon shortages of skilled craftsmen and other trained industrial workers have encouraged communities and schools to develop programs to meet this increased demand for skilled workers.

Enrollment summaries for fiscal year 1966 are shown in table 12. In fiscal year 1965, enrollment in vocational education in secondary schools represented approximately 24 percent of the total public school enrollment; it was 25.4 percent for the year 1966.

In 1965, home economics and trade and industrial education had the largest enrollments, with the majority of home economics students in the secondary schools and the majority of trade and industrial students in the adult programs. During 1966, home economics continued to have the largest enrollments, however, there was a decrease in total enrollments between 1965 and 1966. Office occupations had the greatest growth during these same 2 years, and trade and industrial remained the second largest instructional category.

Enrollment by Educational Level

Data for the year 1964–65 were available for the first time to show enrollment by secondary programs, post-secondary programs, adult programs, and programs for persons with special needs. In terms of the educational levels served, the data show the following gains from fiscal year 1964 to fiscal year 1966:

	Percent
Secondary	+43. 0
Post-secondary	+156. 7
Adult	+12. 9
Special needs [1]	
Total	+33. 7

[1] Data were not reported until 1965.

Table 13 identifies the percentage of enrollments by level and instructional category for fiscal year 1966. The largest enrollments in secondary schools were in agriculture, home economics, and office occupations; in post-secondary they were in health and technical; in adult they were in distribution and trade and industry; and for special needs they were in trade and industry.

The States vary widely in enrollment and growth in the various areas of vocational education. With 50 different State systems of public education, the approaches to providing for occupational needs are influenced by a variety of factors. Nevertheless, each State in its own way has adopted the provisions of the Vocational Education Act of 1963.

Secondary School Enrollment

In order to show the variation among the States at the secondary school level, a comparison is made between total enrollment in secondary schools and enrollment in vocational education in secondary schools. The data in table 14 and figure 3 show the variations among the States in enrollment in vocational education classes in secondary schools.

Post-Secondary-School Enrollment

A substantial number of students were either beginning or continuing their vocational preparation in post-secondary institutions. These institutions were identified under such names as area schools, technical institutes, and junior or community colleges.

TABLE 13.—*Percentage enrollments, by educational level and occupational categories, fiscal year 1966* [1]

	Agri-culture	Distri-bution	Health	Home economics	Office	Technical	Trades and industry	Total
	100. 0	100. 0	100. 0	100. 0	100. 0	100. 0	100. 0	100. 0
Secondary	56. 2	24. 2	11. 7	67. 8	64. 5	11. 4	25. 1	50. 1
9th and below	18. 9	. 1	. 1	26. 8	5. 5	. 2	2. 3	....
10th	15. 4	. 7	2. 3	16. 3	10. 2	2. 4	4. 6	....
11th	12. 6	8. 0	3. 1	11. 5	23. 5	3. 9	8. 0	....
12th	9. 3	15. 4	6. 2	13. 2	25. 3	4. 9	10. 2	....
Post-secondary	. 8	3. 8	43. 6	. 1	13. 4	39. 5	9. 1	7. 2
13th	. 5	2. 1	37. 5	. 1	9. 0	24. 3	5. 1	....
14th	. 3	1. 7	6. 1	....	4. 4	15. 2	4. 0	....
Adult	42. 9	71. 6	44. 3	31. 4	21. 9	49. 1	63. 4	41. 7
Preparatory	1. 2	17. 3	24. 3	6. 0	13. 2	4. 7	8. 2	....
Supplementary	41. 7	54. 3	20. 0	25. 4	8. 7	44. 4	55. 2	....
Special needs	. 1	. 4	. 4	. 7	. 2	....	2. 4	1. 0
Number 9th and below	5, 162	. 6	....	35, 479	109	....	5, 942	....

[1] National Center for Educational Statistics, U.S. Office of Education.

Beginning in 1965, data were gathered for the first time to show enrollment in post-secondary schools. For data collection purposes, the post-secondary school was defined as one whose program included students who had completed or left high school and who were "available for full-time study in preparation for entering the labor market." Simply stated, the admission criteria for determining programs eligible were:

1. The individual must be available for full-time study.
2. The individual must have completed or left high school.
3. The individual is not in the labor force on a full-time basis.[1]

In 1965, 207,201 students were identified as post-secondary and in 1966, 442,097. The States varied considerably in enrollment in post-secondary programs. Some States had previously developed vocational education programs in post-secondary institutions. Area schools that were developed in some States after 1958 were devoted largely to vocational programs in the post-secondary area. California, whose junior college law was passed in 1907, had defined this institution as a part of the public secondary school program and, as a result, substantial development of vocational education already had taken place by 1963.

That the States vary in the extreme in enrollment in post-secondary programs of vocational education is not as significant, therefore, as the fact that these programs are showing extraordinary growth. In order to show the status relationships among the States, enrollment in vocational education programs for 1966 is compared with the population in the 20 to 24 age group, using the Bureau of the Census estimate of July 1, 1965. These data are shown in table 15 and figure 4.

It must be pointed out that both table 15 and figure 4 can be misleading in attempting to show the influence of the Vocational Education Act of 1963. Identifying post-secondary enrollment was largely a new concept; these data had not been reported previously. Funds were made available late in 1964 so that such data as were reported for 1965 marked merely an improvement in data collection. This also is true to some extent for 1966 data, and it may still be true for 1967 data. In other words, the full impact of VEA 1963 on enrollment in the post-secondary area consists of a number of influences, including the improved data collection methods, which must be taken into account if the data are to be used to reflect influence of the 1963 act.

Other aspects influencing interpretation of the data include the sudden addition of office occupations (21 percent of the post-secondary enrollment for 1965, and 37.4 percent for 1966), which measures more a recognition of a long-established program of vocational significance as a part of the official vocational education family, then actual growth of new programs in vocational education. Furthermore, comparable data prior to fiscal year 1963 for post-secondary-school enrollment in public education are not available as a base to show differences among the States in post-secondary enrollment in vocational education.

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[1] Tentative criteria (Jan. 15, 1967), Division of Vocational and Technical Education, U.S. Office of Education.

TABLE 14.—*Enrollment in vocational education in secondary schools compared with enrollment in grades 9–12, by States, fiscal year 1966*

State	Enrollment secondary grades 9–12 [1]	Enrollment vocational secondary schools [2]	Percentage secondary students in vocational schools
Totals	11, 987, 869	3, 048, 248	25. 4
Alabama	231, 004	74, 351	32. 2
Alaska	13, 560	3, 811	28. 1
Arizona	99, 381	27, 341	27. 5
Arkansas	127, 182	48, 566	38. 2
California	1, 207, 416	224, 660	18. 6
Colorado	135, 819	20, 816	15. 3
Connecticut	150, 273	22, 517	15. 0
Delaware	30, 842	9, 482	30. 7
District of Columbia	33, 671	4, 180	12. 4
Florida	342, 293	110, 240	32. 2
Georgia	281, 915	91, 710	32. 5
Hawaii	44, 592	8, 391	18. 8
Idaho	53, 390	15, 990	29. 9
Illinois	596, 384	92, 594	15. 5
Indiana	318, 056	53, 009	16. 7
Iowa	183, 730	33, 547	18. 2
Kansas	145, 186	20, 981	14. 4
Kentucky	186, 544	59, 164	31. 7
Louisiana	213, 235	68, 872	32. 3
Maine	56, 470	5, 907	10. 5
Maryland	209, 731	106, 213	50. 6
Massachusetts	291, 070	84, 904	29. 2
Michigan	554, 100	138, 380	25. 0
Minnesota	252, 286	55, 574	22. 0
Mississippi	148, 725	55, 529	37. 3
Missouri	257, 863	64, 503	22. 0
Montana	48, 713	8, 462	17. 4
Nebraska	91, 910	22, 018	23. 9
Nevada	26, 963	7, 955	29. 5
New Hampshire	36, 828	6, 478	17. 6
New Jersey	362, 000	53, 149	14. 7
New Mexico	74, 902	16, 149	21. 6
New York	920, 800	315, 162	34. 2
North Carolina	333, 842	144, 199	43. 2
North Dakota	44, 466	11, 522	25. 9
Ohio	635, 199	70, 661	11. 1
Oklahoma	167, 126	55, 103	33. 0
Oregon	143, 847	24, 739	17. 2
Pennsylvania	661, 640	129, 372	19. 5
Rhode Island	44, 400	4, 893	11. 0
South Carolina	169, 663	62, 889	37. 1
South Dakota	48, 872	10, 275	21. 0
Tennessee	233, 820	78, 244	33. 5
Texas	676, 847	190, 845	28. 2
Utah	78, 419	29, 305	36. 9
Vermont	22, 860	11, 454	50. 1
Virginia	262, 588	97, 430	37. 1
Washington	216, 275	58, 602	27. 1
West Virginia	128, 011	33, 958	26. 5
Wisconsin	278, 112	34, 317	12. 3
Wyoming	24, 078	5, 628	23. 4
Puerto Rico	125, 797	62, 068	49. 3

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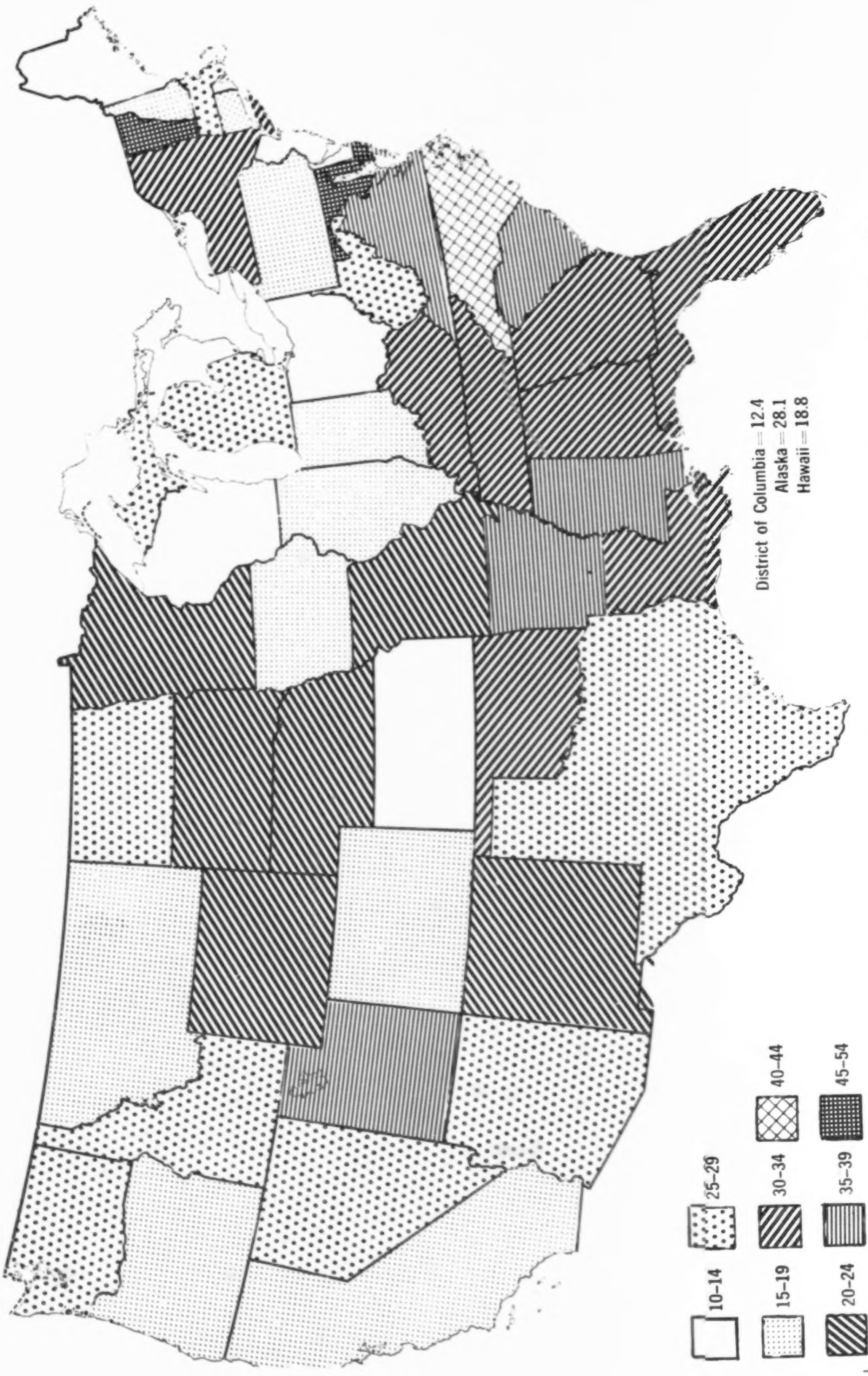
[1] U.S. Department of Health, Education, and Welfare, Office of Education. "Fall 1966 Statistics of Public Elementary and Secondary Day Schools," OE–20007–66. Washington: U.S. Government Printing Office, 1967, p. 15.

[2] Data furnished by the Division of Vocational and Technical Education.



10–14
15–19
20–24
25–29
30–34
35–39
40–44
45–54
District of Columbia = 12.4
Alaska = 28.1
Hawaii = 18.8

FIGURE 3.—Vocational education enrollment as a percentage of secondary school enrollment, fiscal year 1966.

TABLE 15.—*Post-secondary enrollment in vocational education compared with population in the 20- to 24-year age group, by States, fiscal year 1966*

State	Population 20–24 years,[1] July 1, 1965	Post-secondary vocational enrollment,[2] 1966	Post-secondary vocational education enrollment as a percentage of the 20–24 age group
Totals	13, 552, 000	442, 097	3. 26
Alabama	267, 000	2, 345	. 88
Alaska	25, 000	163	. 65
Arizona	117, 000	2, 891	2. 47
Arkansas	151, 000	3, 127	2. 07
California	1, 313, 000	155, 171	11. 82
Colorado	139, 000	7, 302	5. 25
Connecticut	184, 000	3, 050	1. 66
Delaware	33, 000	....	....
District of Columbia	48, 000	1, 129	2. 36
Florida	396, 000	17, 865	5. 64
Georgia	356, 000	3, 641	1. 02
Hawaii	65, 000	2, 442	3. 76
Idaho	50, 000	962	1. 93
Illinois	663, 000	3, 673	. 55
Indiana	318, 000	771	. 24
Iowa	171, 000	1, 815	1. 06
Kansas	148, 000	2, 555	1. 71
Kentucky	241, 000	1, 823	. 75
Louisiana	261, 000	12, 800	4. 95
Maine	68, 000	803	1. 18
Maryland	254, 000	2, 276	. 89
Massachusetts	344, 000	3, 619	1. 05
Michigan	534, 000	19, 472	3. 65
Minnesota	225, 000	5, 079	2. 26
Mississippi	187, 000	2, 646	1. 41
Missouri	293, 000	1, 977	. 59
Montana	48, 000	1, 249	2. 61
Nebraska	93, 000	1, 395	1. 50
Nevada	34, 000	291	. 85
New Hampshire	47, 000	853	1. 81
New Jersey	439, 000	1, 165	. 27
New Mexico	70, 000	639	. 91
New York	1, 128, 000	29, 749	2. 63
North Carolina	415, 000	7, 261	1. 75
North Dakota	48, 000	2, 507	5. 23
Ohio	637, 000	3, 708	. 58
Oklahoma	179, 000	2, 074	1. 15
Oregon	134, 000	4, 617	3. 45
Pennsylvania	724, 000	3, 300	. 45
Rhode Island	62, 000	....	....
South Carolina	227, 000	3, 224	1. 44
South Dakota	44, 000	391	. 89
Tennessee	296, 000	3, 056	1. 03
Texas	775, 000	19, 494	2. 52
Utah	75, 000	3, 463	4. 62
Vermont	28, 000	386	1. 38
Virginia	365, 000	4, 932	1. 35
Washington	203, 000	55, 854	27. 51
West Virginia	124, 000	496	. 40
Wisconsin	260, 000	28, 468	8. 44
Wyoming	21, 000	314	1. 49

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[1] U.S. Department of Commerce. "Population Estimates," series P–23, No. 350, Oct. 5, 1966, table 1.

[2] Data supplied by the Division of Vocational and Technical Education.

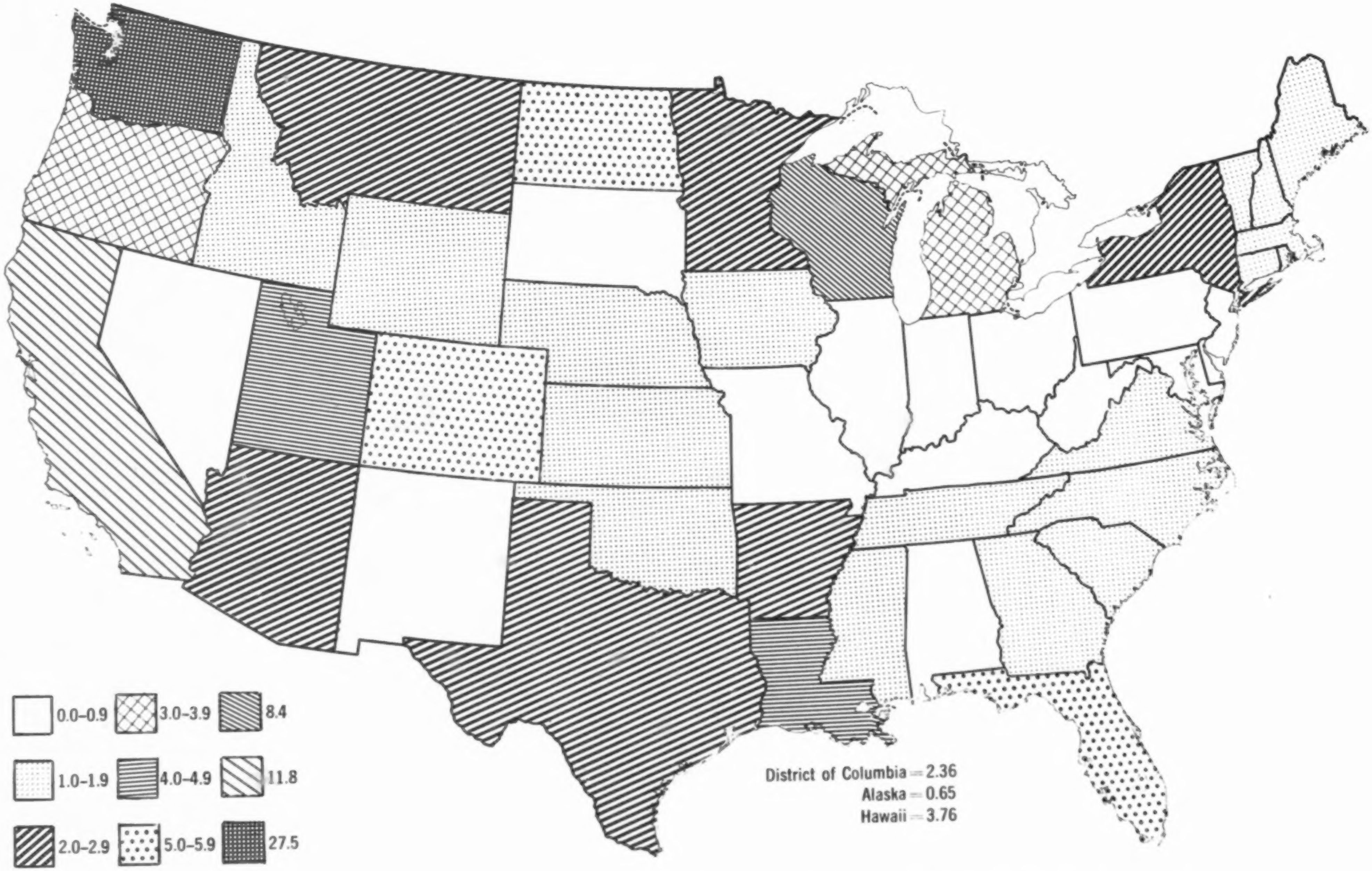
0.0–0.9
3.0–3.9
8.4
1.0–1.9
4.0–4.9
11.8
2.0–2.9
5.0–5.9
27.5
District of Columbia = 2.36
Alaska = 0.65
Hawaii = 3.76

FIGURE 4.—Post-secondary enrollment in vocational education compared with population in the 20- to 24-year age group, fiscal year 1966

The population age range of 20–24 years was chosen for the sake of convenience as a base to show State variation. It is known that the age range of 20–24 does not reflect accurately the ages of students enrolled in post-secondary vocational education. Within broad limits, therefore, the percentages shown for table 20 and figure 4 are only approximations toward showing State effort in post-secondary education.

Change in enrollment for each of the States from 1965 to 1966 is shown in table 16. Extreme variation in percentage change, from −82.3 to +580, suggests data recording problems in the States and the presence of unusual conditions.

The total change in enrollment in post-secondary education was 234,896, or 113 percent. But this change was influenced by the addition of a significant volume of enrollment in office occupations. The enrollment in office occupations accounted for 21 percent of the enrollment in post-secondary education for 1965 and 37.4 percent of the enrollment in 1966. This produced

TABLE 16.—*Post-secondary enrollment in vocational education: Change, fiscal years 1965 and 1966*

	Enrollment 1965	Enrollment 1966	Change in enrollment	Percent change
Totals	207, 201	442, 097	+234, 896	+113. 3
Alabama	2, 880	2, 345	−535	−18. 5
Alaska	924	163	−761	−82. 3
Arizona	1, 147	2, 891	+1, 744	+153. 0
Arkansas	2, 213	3, 127	+914	+41. 3
California	64, 980	155, 171	+90, 191	+138. 8
Colorado	4, 819	7, 302	+2, 483	+51. 5
Connecticut	2, 031	3, 050	+1, 109	+50. 2
Delaware	14	....	−14	....
District of Columbia	1, 140	1, 129	−11	−. 9
Florida	10, 875	17, 865	+11, 421	+105. 0
Georgia	2, 755	3, 641	+886	+32. 1
Hawaii	2, 769	2, 442	−327	−11. 8
Idaho	853	962	+109	+12. 8
Illinois	1, 726	3, 673	+1, 947	+113. 0
Indiana	199	771	+572	+287. 0
Iowa	1, 145	1, 815	+670	+58. 2
Kansas	2, 429	2, 555	+126	+5. 2
Kentucky	....	1, 823	+1, 823	....
Louisiana	9, 258	12, 800	+3, 542	+38. 3
Maine	636	803	+167	+26. 2
Maryland	1, 013	2, 276	+1, 263	+124. 6
Massachusetts	1, 479	3, 619	+2, 140	+145. 0
Michigan	8, 252	19, 472	+11, 220	+136. 0
Minnesota	4, 666	5, 079	+413	+8. 8
Mississippi	1, 665	2, 646	+981	+59. 0
Missouri	254	1, 977	+1, 476	+580. 0
Montana	199	1, 249	+1, 050	+528. 0
Nebraska	1, 021	1, 395	+374	+36. 7
Nevada	659	291	−368	−56. 0
New Hampshire	645	853	+208	+32. 3
New Jersey	781	1, 165	+384	+49. 2
New Mexico	471	639	+168	+35. 6
New York	....	29, 749	+29, 749	....
North Carolina	1, 306	7, 261	+5, 955	+45. 6
North Dakota	1, 749	2, 507	+758	+43. 7
Ohio	3, 349	3, 708	+359	+10. 7
Oklahoma	2, 006	2, 074	+8	Nil
Oregon	4, 027	4, 617	+590	+14. 6
Pennsylvania	2, 751	3, 300	+549	+19. 9
Rhode Island	....	....	....	....
South Carolina	1, 194	3, 224	+2, 030	+170. 0
South Dakota	438	391	−47	−10. 8
Tennessee	1, 659	5, 264	+3, 605	+217. 3
Texas	12, 336	19, 494	+7, 156	+58. 0
Utah	2, 591	3, 465	+874	+33. 7
Vermont	287	386	+99	+34. 5
Virginia	3, 729	4, 923	+1, 203	+32. 2
Washington	14, 075	55, 854	+41, 779	+296. 8
West Virginia	124	496	+372	+3. 0
Wisconsin	20, 818	28, 468	+7, 650	+36. 7
Wyoming	70	314	+244	+348. 5
Puerto Rico	734	1, 161	+427	+58. 2

a differential effect upon the enrollment in post-secondary education because 25 States show no enrollment in office occupations for 1965 (in post-secondary education) and 12 States show no such enrollment for 1966.

Adult Education Enrollment

Instructions for reporting enrollment for adult programs ask for enrollment in two basic classifications:

1. Adult Preparatory (part-time study).

   Vocational education for persons who have already entered the labor market or are unemployed but need retraining in preparing for a new occupation. Adult preparatory includes Special Type C Trade Classes. These are preemployment programs as described in 104.74(b) of part 104 (Rules and Regulations), Administration of Vocational Education.

2. Adult Supplementary (part-time study/short intensive course).

   Vocational education for persons who have already entered the labor market and who need training to be updated or upgraded to achieve stability or advancement in their current employment.

These descriptions will tend to standardize the reporting procedures for 1966–67, and will more accurately represent the enrollment described generally as adult vocational education.

Data for 1965 and 1966 show large variations among the States and for each State from 1965 to 1966, which leads one to believe that some rather sharp changes developed in enrollment accounting procedures and that such data do not necessarily reflect the true situation with respect to change. On the other hand, some States did not change procedures in identifying enrollees in adult education programs. It is particularly difficult (at this time) to make appropriate identification of change.

Nevertheless, the enrollment data as reported were tabulated for 1965 and 1966 and comparisons were made. In order to show variation among the States, the population age group of 25–65 years was used as the base, and enrollment in adult vocational programs was calculated as a percentage of this group. Obviously, not all persons concerned with or eligible for these programs fall within the age range of 25–65 years, but presumably most of them do. Other bases could have been used to show this variation. Table 17 then, shows the percentages for the years 1965 and 1966.

In addition, the change in enrollment, either positive or negative, was calculated to determine the percentage change in enrollment for each of the States. Extreme variation for each State, and among the States, suggests an accounting problem. For example, the changes for the State of Connecticut (+92.1 percent) and for the State of Washington (−51.5 percent) appear to be extreme and cannot be accounted for on the basis of social, economic, or industrial change.

Enrollment of Persons With Special Needs

Table 18 indicates changes in enrollment of persons with special needs. Twenty States did not report any enrollment in this category for 1965, and 11 States did not report such enrollment in 1966. This was a new program, reported for the first time in 1965.

Vocational educators need to implement many new services in their new role of meeting the needs of persons with special needs. Elements and patterns for success are to be found in the Vocational Rehabilitation Administration. Well-trained instructors and especially selected and sized groups are important, but there is the need to provide many other services, ancillary in nature, geared to the assessment of the potential of the individual. In addition, motivation, personal development and placement, and followup should round out the services for those with special needs.

There is the need for an awakening on the part of educators to their role and the magnitude of the task of adequately providing a satisfactory training service to those persons who may be disadvantaged.

One State has a successful occupational work-experience program for youth with I.Q. in the 75–90 range. It has been found that programs providing school shop experience before the student is placed in a work-experience situation in the community have resulted in the greatest success. Trade and industrial training programs have proved to hold great potential for this type of development.

Another State has operated more than 200 classes for youth with special needs. To more adequately handle the problems involved, the State has conducted a 1-week workshop for teachers and ancillary service workers in these programs each year. The expansion of guidance and counseling activity within the States should strengthen the programs designed to provide not only training to persons with special needs but also to meet effectively many additional auxiliary needs important to successful adjustment to the world of work and the community in which the individual must function as a contributing citizen.

TABLE 17.—*Adult vocational education enrollment compared with population age group 25–64 years. Change in enrollment and percentage change in enrollment, fiscal years 1965 and 1966*

State	Population, 25–65 years	Adult vocational education enrollment, 1965	Enrollment as a percent of age group	Adult vocational education enrollment, 1966	Enrollment as a percent of age group	Enrollment change, 1965–66	Percentage change, 1965–66
Totals	87, 935, 000	2, 378, 522	2. 82	2, 530, 712	2. 87	+152, 190	+6. 0
Alabama	1, 482, 000	39, 433	2. 65	47, 223	3. 19	+7, 790	+19. 75
Alaska	109, 000	315	. 31	1, 357	1. 24	+1, 042	+330. 79
Arizona	663, 000	15, 816	2. 38	14, 601	2. 20	−1, 215	−7. 6
Arkansas	809, 000	44, 208	5. 47	40, 895	5. 07	−3, 313	−7. 5
California	8, 473, 000	261, 722	3. 09	368, 100	4. 34	+106, 378	+40. 64
Colorado	352, 000	37, 923	10. 75	43, 545	12. 40	+5, 758	+15. 2
Connecticut	1, 331, 000	14, 923	1. 13	28, 669	2. 17	+13, 746	+92. 1
Delaware	226, 000	2, 298	10. 15	3, 586	15. 79	+1, 288	+56. 0
District of Columbia	398, 000	5, 121	1. 38	3, 144	. 78	−1, 977	−38. 6
Florida	2, 555, 000	136, 418	5. 35	144, 118	5. 65	+7, 700	+5. 6
Georgia	1, 881, 000	95, 239	5. 06	97, 060	5. 15	+1, 821	+1. 9
Hawaii	299, 000	5, 388	1. 80	5, 692	1. 90	+304	+5. 6
Idaho	288, 000	3, 898	1. 35	4, 809	1. 67	+1, 011	+25. 9
Illinois	4, 908, 000	60, 215	1. 23	48, 405	. 99	−11, 810	−19. 6
Indiana	2, 164, 000	27, 449	1. 26	24, 622	1. 13	−2, 827	−10. 2
Iowa	1, 178, 000	36, 675	3. 10	42, 370	3. 60	+5, 695	+15. 5
Kansas	980, 000	26, 011	2. 65	29, 365	2. 99	+3, 354	+12. 9
Kentucky	1, 349, 000	29, 827	2. 21	32, 378	2. 40	+2, 551	+8. 5
Louisiana	1, 482, 000	31, 197	2. 15	27, 637	1. 90	−3, 560	−11. 4
Maine	420, 000	3, 304	. 78	3, 397	. 81	+93	+. 2
Maryland	1, 602, 000	21, 203	1. 32	23, 054	1. 44	+1, 851	+8. 7
Massachusetts	2, 449, 000	52, 104	2. 12	54, 624	2. 22	+2, 500	+4. 8
Michigan	3, 681, 000	84, 108	2. 28	107, 480	2. 92	+23, 372	+27. 7
Minnesota	1, 487, 000	68, 857	4. 60	67, 053	4. 48	−1, 822	−2. 6
Mississippi	900, 000	35, 811	3. 98	36, 299	4. 34	+3, [illegible]89	+9. 2
Missouri	2, 011, 000	24, 958	1. 28	26, 887	1. 34	+1, 929	+7. 7
Montana	296, 000	4, 663	1. 57	4, 608	1. 55	−55	−1. 2
Nebraska	624, 000	20, 059	3. 20	26, 481	4. 24	+6, 422	+32. 1
Nevada	205, 000	4, 834	2. 35	6, 512	3. 18	+1, 709	+35. 3
New Hampshire	299, 000	1, 514	. 51	1, 378	. 46	−136	−8. 9
New Jersey	3, 239, 000	19, 588	. 61	25, 250	. 78	+5, 646	+28. 8
New Mexico	404, 000	2, 566	. 63	3, 796	. 93	+1, 230	+48. 0
New York	8, 748, 000	151, 222	1. 61	151, 523	1. 62	+301	Nil
North Carolina	2, 138, 000	73, 305	3. 42	81, 855	3. 82	+8, 550	+11. 6
North Dakota	267, 000	7, 241	2. 71	7, 314	2. 74	+73	+1. 0
Ohio	4, 617, 000	127, 813	2. 77	132, 885	2. 85	+5, 072	+4. 0
Oklahoma	1, 086, 000	21, 659	1. 99	21, 426	1. 96	−233	−1. 1
Oregon	871, 000	17, 087	1. 96	20, 661	2. 37	+3, 574	+2. 1
Pennsylvania	5, 453, 000	66, 318	1. 21	54, 599	1. 01	−11, 719	−17. 6
Rhode Island	410, 000	3, 007	. 73	3, 024	. 74	+17	Nil
South Carolina	1, 036, 000	64, 285	4. 72	60, 729	4. 46	−3, 556	−5. 5
South Dakota	279, 000	6, 289	2. 25	6, 030	2. 16	−259	−4. 4
Tennessee	1, 712, 000	27, 762	1. 62	34, 756	2. 03	+6, 994	+25. 2
Texas	4, 597, 000	272, 339	5. 90	290, 377	6. 33	+18, 038	+6. 4
Utah	396, 000	18, 420	4. 65	16, 977	4. 29	−1, 443	−7. 8
Vermont	172, 000	2, 900	1. 70	3, 361	1. 96	+461	+15. 9
Virginia	1, 063, 000	58, 094	2. 96	54, 153	2. 76	−3, 941	−6. 8
Washington	1, 315, 000	100, 825	7. 60	49, 201	3. 73	−51, 624	−51. 5
West Virginia	799, 000	14, 485	1. 88	14, 738	1. 84	+253	+17. 4
Wisconsin	1, 784, 000	114, 102	6. 40	112, 644	6. 31	−1, 458	−1. 2
Wyoming	143, 000	1, 597	1. 11	2, 104	1. 47	+515	+32. 3

TABLE 18.—*Enrollment of persons with special needs in vocational education programs, fiscal years 1965 and 1966*

State	Enrollment 1965	Enrollment 1966
Totals	26,638	49,002
Alabama		171
Alaska		1,111
Arizona	209	283
Arkansas	12	136
California	72	78
Colorado	779	1,320
Connecticut	5	10
Delaware		154
District of Columbia		915
Florida	66	621
Georgia		
Hawaii		
Idaho		
Illinois	7,449	8,720
Indiana		113
Iowa		9
Kansas	194	70
Kentucky		
Louisiana	37	808
Maine		
Maryland	2,225	2,480
Massachusetts	61	
Michigan	46	
Minnesota	40	661
Mississippi	395	516
Missouri	10	894
Montana		71
Nebraska		464
Nevada	16	177
New Hampshire		
New Jersey	23	1,372
New Mexico	70	83
New York		
North Carolina	100	698
North Dakota		46
Ohio	25	941
Oklahoma	2,000	18
Oregon		81
Pennsylvania	3,798	9,747
Rhode Island	64	124
South Carolina	166	162
South Dakota	13	
Tennessee	36	160
Texas	838	2,815
Utah	406	540
Vermont		
Virginia	112	809
Washington	112	108
West Virginia		117
Wisconsin	3,419	2,238
Wyoming		54
Puerto Rico	2,888	8,803

SCHOOLS

One of the significant measures of the growth and development of vocational education is the change in the number of schools offering vocational education. This serves as an indication of increased availability of training.

Until recently, data available to identify schools included a considerable amount of overlapping. For example, the number of schools having vocational education programs was reported to be between 46,000 and 48,000 for the period 1960–64. These figures cannot be interpreted as a count of individual schools because some schools could be reported several times, depending upon the number of different occupational categories for which the school provided instruction. The problem is further complicated by the fact that vocational education is offered in many different types of institutions.

Beginning with statistical data for 1965, tabulations were published that provided information concerning the various types and levels of institutions offering vocational education programs. Relationship of types and levels of schools from information on file in the Office of Education for 1966 and published statistical reports is shown in table 19.

TABLE 19.—*Number of schools offering vocational education by type of institution* [1]

Type	1965	1966
Regular or comprehensive secondary school	15,938	15,592
Vocational-technical secondary (area, regional, local)	394	431
Community or junior college	325	385
Technical-vocational post-secondary	225	290
Combination secondary/post-secondary	130	186
University or college	72	168
Under contract	11	14
Total	17,095	17,066

[1] Data supplied by the Division of Vocational and Technical Education.

In recent years, the number of post-secondary schools has shown an increase, particularly when the combination secondary/post-secondary schools are considered also. Nevertheless, approximately 92 percent of the schools offering instruction in 1966 were comprehensive secondary schools.

TEACHERS

The effectiveness of vocational education is to a large degree dependent on the instructional staff. Both the quality and quantity of teachers available determines how well vocational education will be maintained, expanded, and extended. There has been a continuous growth in the number of vocational teachers during the last 10 years.

The number of teachers of vocational classes by level of program for both full- and part-time teachers is shown in table 20. This table has the total unduplicated count for both fiscal years 1965 and 1966. There was a 13.7-percent increase of vocational teachers over these 2 years. The percentage increase was largest for teachers in the post-secondary programs. There was a decrease of 18.3 percent of full-time teachers in adult programs. The secondary programs have had a 20-percent increase for full-time teachers and a 20.9-percent increase for part-time teachers.

Table 21 reviews the growth in the number of vocational teachers by occupational category. Home economics, office, and trade and industry have the largest number of teachers. It is difficult to compare the growth over this 10-year period because the records for the number of teachers did not indicate unduplicated counts until 1964–65—the reason agriculture shows a drop in the number of teachers. Home eco-

TABLE 20.—*Number of teachers of vocational classes by level of program: Full and part time, fiscal years 1965 and 1966* [1]

Level of program	Number 1965	Number 1966	Percent increase fiscal years 1965–66
Secondary:			
Full time	41, 366	49, 623	20. 0
Part time	13, 382	16, 178	20. 9
Post-secondary:			
Full time	6, 963	9, 728	39. 7
Part time	6, 620	9, 465	43. 0
Adult programs:			
Full time	4, 973	4, 064	(−18. 3)
Part time:			
Who are secondary teachers	14, 836	17, 221	16. 1
Who are post-secondary teachers	5, 021	6, 847	36. 4
From business and industry	29, 218	30, 569	4. 6
Total unduplicated count	109, 136	124, 042	13. 7

[1] Tabulated from State reports on file in the Division of Vocational and Technical Education, USOE.

NOTE.—The count of adult program teachers who teach in more than 1 program has been adjusted to eliminate duplication in the totals.

TABLE 21.—*Number of teachers of vocational education classes* [1]

	Fiscal year			
	1956	1959	1963	1966 [2]
Agriculture [3]	20, 469	21, 089	18, 236	11, 765
Distributive education	5, 514	[illegible], 117	6, 116	7, 636
Health occupations		1, 269	2, 334	3, 652
Home economics	24, 991	27, 151	27, 471	25, 943
Office occupations				23, 111
Technical education		988	8, 441	8, 399
Trades and industry	29, 036	33, 847	34, 483	38, 736
Work-study				849
Guidance counselors				3, 951
Total	80, 010	90, 461	97, 081	124, 042

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[1] U.S. Department of Health, Education, and Welfare, Office of Education. Digest of Annual Reports, 1956–63; Review of Activities in Federally Aided Programs, Vocational and Technical Education, 1964; Vocational and Technical Education: Annual Report/Fiscal Year 1966.

[2] Unduplicated count.

[3] The 1966 total does not reflect a loss of agriculture teachers; the total in 1963 represents agriculture teaching positions; the total in 1966 represents individual teachers.

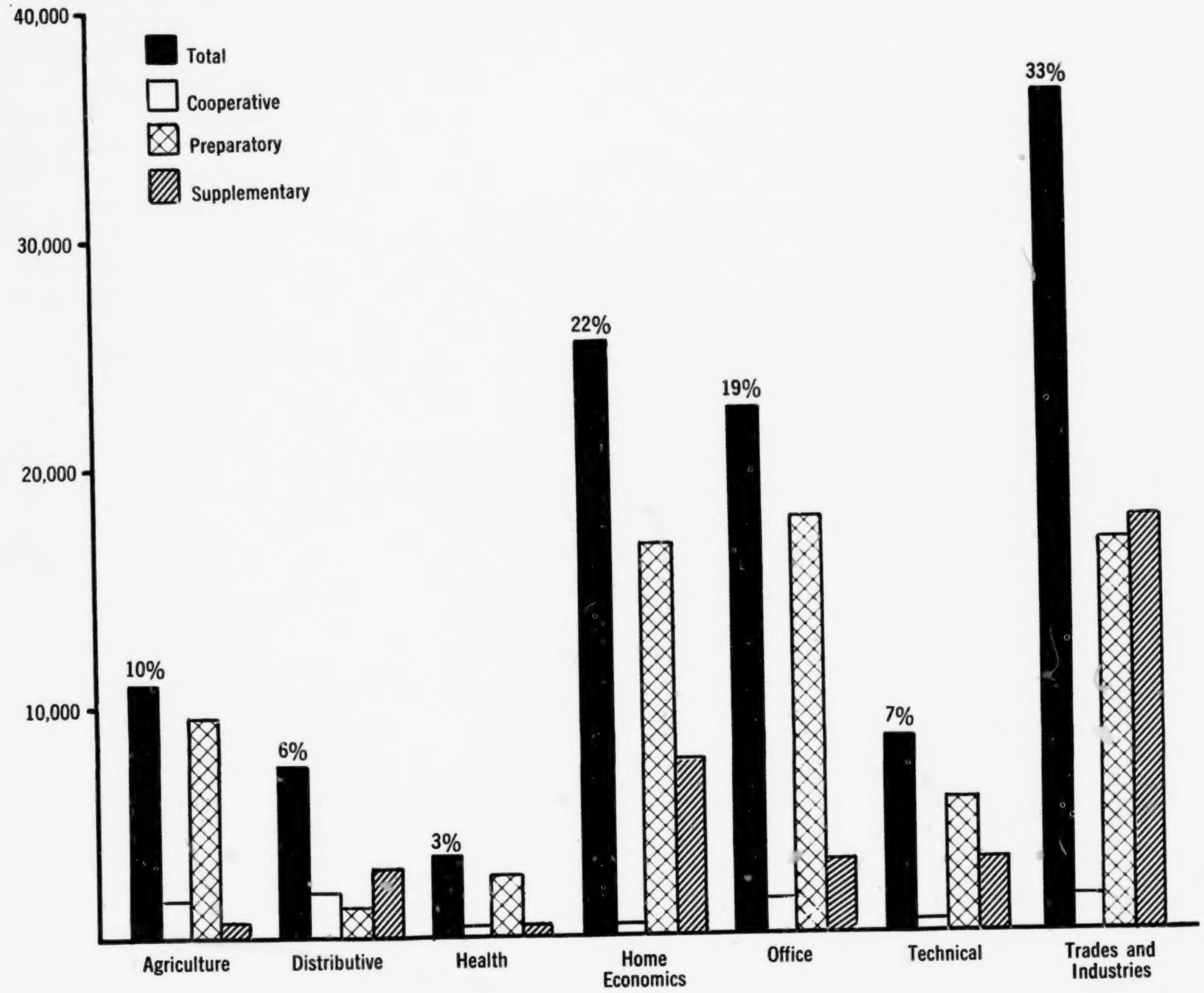

FIGURE 5.—Number of teachers of vocational classes, by type of program and by type of class, fiscal year 1966.

nomics also has had a reduction in teachers; this reduction may be a reflection of the drop in home economics enrollments (see table 8 in this chapter).

Figure 5 shows the number of teachers of vocational classes by type of program and type of class. Home economics and trade and industry have each at least twice the number of supplementary teachers as have the other instructional areas. Distributive education has the largest percentage of teachers in cooperative classes.

The Center for Vocational and Technical Education, the Ohio State University, studied the projected needs for vocational teachers.[2] The results of the study are shown in table 22. In all instructional areas except trade and industry, the greatest need is for post-secondary teachers. Trade and industry's greatest need is for secondary teachers. The projected increase in the need for agricultural teachers in the post-secondary schools reflects the increase in off-farm programs.

Between 1965 and 1968, there is a 26.6-percent increase in the projected need for teachers.[3] It is essential that a continuing supply of highly qualified individuals be brought into vocational education as teachers if vocational education is to achieve its potentiality.

Table 22.—*The demand for vocational teachers* [1]

Instructional area	1965	1968	Percent increase
Agriculture:			
Secondary	9, 800	10, 320	5. 3
Post-secondary	351	748	113. 1
Business and office:			
Secondary	25, 160	32, 196	28. 0
Post-secondary	2, 049	2, 807	37. 0
Distributive:			
Secondary	2, 818	4, 205	49. 2
Post-secondary	321	557	73. 5
Health occupations:			
Secondary	...	...	...
Post-secondary	2, 109	2, 957	40. 2
Home economics:			
Secondary	20, 856	23, 715	13. 7
Post-secondary	1, 095	1, 816	65. 8
Technical:			
Secondary	...	...	...
Post-secondary	3, 317	4, 633	39. 7
Trade and industrial:			
Secondary	10, 690	15, 288	43. 2
Post-secondary	5, 906	7, 705	30. 5
Total secondary	69, 314	85, 724	23. 7
Total post-secondary	15, 148	21, 223	40. 1
Total	84, 462	106, 947	26. 6

[1] The Center for Vocational and Technical Education. "The Demand for Teachers in Vocational and Technical Education." Columbus, Ohio: The Ohio State University, March 1967.

OCCUPATIONAL AREAS SERVED

Vocational education is devoted to preparing people to enter the world of work. This preparation, provided as a part of the total school program for an individual, centers around a variety of occupational areas, clusters of occupations, and sometimes a single occupation. The decision to conduct a program is most frequently based upon knowledge of employment needs.

The number of specific occupations involved in the total program of vocational education has increased from year to year since the beginning of the vocational educational movement. This increase is the net effect of the addition of new courses and the deletion of instructional areas no longer in great demand. The rate at which additions and deletions are made does not necessarily reflect current changes in national occupational demands. Rather these changes reflect regional requirements. For example, cabinetmaking has decreased in various sections throughout the Nation due to availability of prefabricated cabinets, and at the same time it is being taught in schools where customized cabinets are still in demand. However, it might be noted that vulcanizing, which was popular in the 1917 listing of occupational areas for which training was provided, has long since dropped out of the list. On the other hand, inhalation therapy, one of the newcomers to the vocational field—with great demand for its graduates—is being introduced into many school programs although its initial enrollment nationwide for 1966 was 38 persons.

There is no evidence to indicate that vocational education programs are overenrolled for any occupational area. In fact, for some occupational areas, an increase in enrollment of fivefold to tenfold would not provide a critical enrollment-job availability ratio.

Despite many variables in the total rationale of vocational education and vocational availability, a brief review of enrollment and placement for the students of 1966 may show the nature of some of the relationships involved.

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[2] The Center for Vocational and Technical Education. "The Demand for Teachers in Vocational and Technical Education." Columbus, Ohio: The Ohio State University, March 1967.

[3] The percentage was obtained from table 22.

Placement and Followup, National

There is a general lack of national data on placement and followup, and an absence of any system for reporting these data in detail. However, the U.S. Office of Education did request followup data on students enrolled in cooperative and preparatory programs in vocational and technical education for fiscal year 1966. The sample consisted of 606,872 students distributed in areas of vocational education as follows:

TABLE 23.—*Students included in placement study, 1966* [1]

Area	Number	Percent
Agriculture	105, 930	17. 4
Distributive	58, 105	9. 6
Health	27, 068	4. 5
Home economics (wage earning)	22, 099	3. 6
Office	228, 561	37. 7
Trades and industry	142, 466	23. 5
Technical	22, 645	3. 7
Total	606, 872	100. 0

[1] Data supplied by the Division of Vocational and Technical Education.

The status in October 1966 of persons completing programs in all areas of vocational education during fiscal year 1966 was found to be as shown in table 24.

TABLE 24.—*Status of persons completing vocational education programs in all areas during fiscal year 1966* [1]

	Number	Percent
Completed program requirements	606, 872	100
Available for placement	347, 626	57
Not available for placement:	219, 482	36
Entered Armed Forces	(45, 517)	(8)
Continued school full time	(141, 302)	(23)
Other reasons	(32, 663)	(5)
Data not available	39, 764	7
Available for placement:	347, 626	100
Placed in field trained or related	275, 370	80
Placed, unrelated to training	42, 529	12
Placed, part time	15, 083	4
Unemployed	14, 644	4

[1] Data supplied by the Division of Vocational and Technical Education.

Of the total available for placement, 80 percent were placed in the specific occupation for which they completed training or in a related occupation. "Related field" was defined as an "occupation in which successful entry and performance are dependent on skills and/or competencies learned in the Vocational Education Instructional Program concerned."

Placement by occupational category was determined to be:

	Percent
Health	92
Technical	90
Office	81
Trades and industry	80
Distributive	78
Home economics (gainful)	76
Agriculture	67

Placement and Followup, Occupational Categories

Agricultural Education

Secondary school enrollments in agricultural education account for 55.9 percent of the total enrollment; the adult enrollment amounts to 43.4 percent; postsecondary enrollment, 0.7 percent; and enrollment of youth with special needs, approximately 0.1 percent.

The Vocational Education Act of 1963 provided amendments to the Smith-Hughes and George-Barden Acts enlarging the scope of agricultural education to "any occupation involving knowledge and skills in agricultural subjects, whether or not such occupation involves work of the farm or of the farm home, and such education may be provided without directed or supervised practice on a farm." [4] This change caused attention to be directed to new emerging off-farm occupations, and to occupations related to other fields, agri-business, for example.

Agricultural education enrollment for 1966 was directed toward the occupational areas shown in table 25.

TABLE 25.—*Occupational areas for agricultural education enrollment, fiscal year 1966* [1]

	Enrollment	Percent
Agricultural production	778, 752	86
Agriculture supplies	36, 309	4
Agriculture mechanics	22, 622	2
Agriculture processing	28, 792	3
Horticulture	10, 509	1
Agriculture resources	300	[2] 1
Forestry	3, 812	[2] 1
Other	26, 258	3
Total	907, 354	100

[1] Data supplied by the Division of Vocational and Technical Education.
[2] Less than 1 percent.

The status in October 1966 of persons completing full-time vocational education programs in agriculture in fiscal year 1966 is shown in table 26.

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[4] Public Law 88–210, 88th Cong., Dec. 18, 1963, sec. 10(b).

TABLE 26.—*Status of persons completing full-time vocational agricultural education during fiscal year 1966* [1]

	Number	Percent
Completed program requirements	105, 930	100
Available for placement	46, 822	44
Not available for placement	56, 243	53
Data not available	2, 865	3
Not available for placement	56, 243	100
Entered Armed Forces	13, 792	24
Continued school full time	40, 367	72
Other reasons	2, 084	4
Available for placement	46, 822	100
Placed in field trained or related	31, 508	67
Placed, unrelated to training	11, 454	25
Placed, part time	2, 203	5
Unemployed	1, 556	3

[1] Data supplied by the Division of Vocational and Technical Education.

Distributive Education

There was a 26.1-percent increase in enrollment in distributive education from fiscal year 1965 to 1966. The largest enrollments, 71.6 percent, were in the adult programs, with the next largest, 24.2 percent, enrolled in secondary schools. General merchandising classes accounted for 20.4 percent of the enrollments. Real estate, 18.6 percent, and management, 11.7 percent, were the next two areas having large enrollments. Occupational areas for which training was provided are listed in table 27.

TABLE 27.—*Occupational areas for distributive education enrollment, fiscal year 1966* [1]

Occupational area	Number	Percent
Advertising services	3, 905	0. 9
Apparel and accessories	18, 547	4. 4
Auto and petroleum	9, 854	2. 3
Finance and credit	15, 792	3. 8
Food distribution	19, 540	4. 7
Food services	26, 795	6. 4
General merchandise	85, 583	20. 4
Hardware, building materials, farm and garden supplies and equipment	4, 717	1. 1
Home furnishings	6, 764	1. 6
Hotel and lodging	9, 558	2. 2
Insurance	13, 461	3. 2
Management	49, 179	11. 7
Marketing	2, 270	. 5
Real estate	78, 344	18. 6
Retailing	27, 107	6. 5
Transportation	5, 862	1. 4
Wholesaling	4, 247	1. 0
Other	38, 901	9. 3
Total	420, 426	100. 0

[1] Data supplied by the Division of Vocational and Technical Education.

The status in October 1966 of persons completing programs in distributive education during fiscal year 1966 was found to be as shown in table 28.

TABLE 28.—*Status of persons completing programs in distributive education, fiscal year 1966* [1]

	Number	Percent
Completed program requirements	58, 103	100
Available for placement	32, 201	56
Not available for placement	22, 222	38
Data not available	3, 880	.6
Not available for placement	22, 222	100
Entered Armed Forces	5, 525	25
Continued school full time	13, 521	61
Other reasons	3, 166	14
Available for placement	32, 201	100
Placed field trained or related	25, 088	78
Placed, unrelated to training	4, 120	13
Placed part time	1, 767	5
Unemployed	1, 226	4

[1] Data supplied by the Division of Vocational and Technical Education.

Health Occupations

Enrollment of students in programs to meet the imperative employment demands of the health field has grown rapidly in recent years. An increase of 25.3 percent for fiscal year 1966 has been cited previously. Considering the total enrollment of 83,677 for 1966, it is noted that 11.7 percent were enrolled in secondary school programs, 43.6 percent in post-secondary school programs, 44.3 percent in adult programs, and 0.4 percent in programs for youth with special needs.

The range of occupations for which training was provided is shown in table 29.

TABLE 29.—*Occupational areas for health occupations education enrollment, fiscal year 1966* [1]

Occupational area	Number	Percent
Dental assistant	6, 304	7. 5
Dental hygienist	935	1. 1
Dental laboratory technician	3, 356	4. 0
Medical assistant	3, 416	4. 0
Nurse, associate degree	4, 215	5. 0
Practical nurse	47, 990	57. 4
Nurses' aide	10, 122	12. 0
Hospital food service supervisor	136	. 2
Medical laboratory assistant	976	1. 1
Physical therapy assistant	29	. 1
Inhalation therapy technician	38	. 1
Surgical technician	327	. 4
Medical X-ray technician	542	. 4
Optical mechanic and dispensary	22	. 7
Optician	70	. 1
Medical record technician	43	. 1
Other (n.e.c.)	5, 107	6. 1
Total	83, 677	100. 0

[1] Data supplied by the Division of Vocational and Technical Education.

An additional 1,702 students were enrolled in health services but were reported in the area of home economics (table 31); 643 students were reported in technical education (table 35); and 7,301 students were reported in trade and industrial education. This occurs because of the characteristics of the various acts and the reporting system.

The status in October 1966 of persons completing programs in health occupations during fiscal year 1966 was found to be as shown in table 30.

TABLE 30.—*Status of persons completing programs in health occupations during fiscal year 1966* [1]

	Number	Percent
Completed program requirements	27,068	100
Available for placement	22,857	84
Not available for placement	2,423	9
Data not available	1,788	7
Not available for placement	2,423	100
Entered Armed Forces	144	6
Continued school full time	1,385	57
Other reasons	894	37
Available for placement	22,857	100
Placed in field trained or related	21,086	92
Placed, unrelated to training	582	3
Placed part time	635	3
Unemployed	554	2

[1] Data supplied by the Division of Vocational and Technical Education.

Although the enrollment in the health occupations field is predominantly women, men accounted for 4.7 percent of the 1966 enrollment.

Home Economics (Gainful)

The Vocational Education Act of 1963 provided that 10 percent of the funds allocated to home economics under the Smith-Hughes and George-Barden Acts must be used in providing instruction for gainful employment. In 1966, the total enrollment of persons attending home economics classes leading to gainful employment was 41,846. Of the total, 30.6 percent were enrolled in secondary schools, 4.4 percent in post-secondary schools, 60.3 percent in adult preparatory and supplementary programs, and 4.7 percent in secondary school programs for youth with special needs.

Occupational areas for which training for gainful employment was provided are listed in table 31.

TABLE 31.—*Occupational areas in home economics programs for gainful employment during fiscal year 1966* [1]

Occupational areas	Number	Percent
Care and guidance of children	4,038	9.7
Clothing management	3,889	9.2
Food management	13,265	31.7
Home furnishings	702	1.7
Institutional	4,043	9.7
Health services	1,702	4.1
Other occupations	11,850	28.3
(N.e.c.)	2,357	5.6
Total	41,846	100.0

[1] Data supplied by the Division of Vocational and Technical Education.

Nearly half of the adult education enrollment was identified as supplementary instruction, indicating that home economics was serving an employed population. Although the enrollment in home economics programs for gainful employment is predominantly female, 7.5 percent of the total were men.

The status in October 1966 of persons completing programs in home economics for gainful employment during fiscal year 1966 is shown in table 32.

TABLE 32.—*Status of persons completing programs for gainful employment in home economics during fiscal year 1966* [1]

	Number	Percent
Completed program requirements	22,099	100
Available for placement	8,770	40
Not available for placement	12,239	55
Data not available	1,090	5
Not available for placement	12,239	100
Entered Armed Forces	201	1
Continued school full time	2,782	23
Other reasons	9,256	76
Available for placement	8,770	100
Placed in field trained or related	6,667	76
Placed unrelated to training	857	10
Placed part time	719	8
Unemployed	527	6

[1] Data supplied by the Division of Vocational and Technical Education.

Office Occupations

Through the inclusion of office occupations in the 1963 act, significant growth in enrollment has taken place. Reported enrollments increased 69.3 percent between 1964 and 1966. Enrollments in the various programs within this category are shown in table 33. Of the 1,238,043 students enrolled, 64.5 percent were in the secondary schools, 13.4 percent were in post-secondary, 21.9 percent were in adult, and 0.2 percent in special needs programs. The range of programs and enrollments is shown in table 33.

TABLE 33.—*Occupational areas in office occupations enrollment during fiscal year 1966* [1]

Occupational area	Number	Percent
Accounting and computing	239,783	19.4
Business data processing	42,764	3.5
Filing, office machines and general office, clerical	294,334	23.8
Information-communication	5,623	.5
Materials support	16,524	1.3
Personnel and training	514	(2)
Stenography and secretarial	418,749	33.8
Supervisory and administrative	9,745	.8
Typing and related	185,244	14.9
Miscellaneous office	24,763	2.0
Total	1,238,043	100.0

[1] Data supplied by the Division of Vocational and Technical Education.

[2] Less than 0.1 percent.

The status in October 1966 of persons completing programs in office occupations during fiscal year 1966 was found to be as follows:

TABLE 34.—*Status of persons completing programs in office occupations during fiscal year 1966* [1]

	Number	Percent
Completed program requirements	228, 561	100
Available for placement	140, 787	62
Not available for placement	70, 403	31
Data not available	17, 371	7
Not available for placement	70, 403	100
Entered Armed Forces	6, 914	10
Continued school full time	51, 081	73
Other reasons	12, 408	17
Available for placement	140, 787	100
Placed field trained or related	113, 191	81
Placed, unrelated to training	12, 645	9
Placed part time	7, 227	5
Unemployed	7, 724	5

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[1] Data supplied by the Division of Vocational and Technical Education.

Technical Education

Enrollment in technical education for 1966 consisted of 253,838 persons. Eleven and one-half percent of this group were enrolled in secondary school programs, 40.5 percent in post-secondary school programs, and 48 percent in adult programs. Sixteen percent of those enrolled in the adult program were receiving instruction of a preparatory nature designed to facilitate their entrance into the world of work. The great majority in the adult program (84 percent), however, consisted of employed persons seeking to improve or broaden their skills for their regular employment or upgrading their occupational potential.

The occupational areas and total enrollments are shown in table 35.

The status in October 1966 of persons completing programs in technical education during fiscal year 1966 is shown in table 36.

Trades and Industry

The greatest diversity of occupations for which training is given comes under the heading of trades and

TABLE 35.—*Occupational areas in technical education enrollment during fiscal year 1966* [1]

Occupational Area	Number	Percent
Aeronautical technician	5, 987	2. 3
Architectural technician	7, 162	2. 8
Chemical technician	2, 848	1. 1
Chemical laboratory technician	222	. 1
Civil technician	6, 174	2. 4
Electrical technician	16, 752	6. 6
Electronics technician	67, 207	26. 5
Environmental control	2, 423	1. 0
Industrial technician	8 438	3. 3
Instrumentation technician	2, 109	. 8
Mechanical technician	52, 348	20. 6
Metallurgical technician	7, 521	2. 9
Fire and police technicians	5, 041	2. 0
Engineering technician	1, 469	. 6
Highway engineering aide technician	3, 428	1. 3
Other technicians:		
Foreman-Supervisor	9, 884	3. 9
Graphics	1, 904	. 7
Machinist	77	. 1
Repair and maintenance	3, 079	1. 2
Technical writer	642	. 1
Wood technician	168	. 1
Technical n.e.c	15, 592	6. 1
Other programs:		
Computer programing	12, 093	4. 8
Data processing	20, 626	8. 1
Medical technician	521	. 1
X-ray technician	122	. 1
Total	253, 838	100. 0

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[1] Data supplied by the Division of Vocational and Technical Education.

TABLE 36.—*Status of persons completing programs in technical education during fiscal year 1966* [1]

	Number	Percent
Completed program requirements	22, 645	100
Available for placement	12, 588	55
Not available for placement	8, 261	37
Data not available	1, 796	8
Not available for placement	8, 261	100
Entered Armed Forces	2, 054	25
Continued school full time	5, 869	71
Other reasons	338	4
Available for placement	12, 588	100
Placed in field trained or related	11, 284	90
Placed unrelated to training	850	7
Placed part time	244	2
Unemployed	210	1

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[1] Data supplied by the Division of Vocational and Technical Education.

industry. From 1964 to 1966 there was a 16.6 percent growth in enrollments. These enrollments were distributed 25.1 percent in secondary, 9.1 percent in post-secondary, 63.4 percent in adult, and 2.4 percent in special needs programs.

Occupational areas for which training was provided are listed in table 37.

The status in October 1966 of persons completing programs in trades and industry during fiscal year 1966 was found to be as shown in table 38.

TABLE 37.—*Occupational areas in trades and industry enrollments during fiscal year 1966* [1] [2]

Occupational areas	Number	Percent
Air conditioning	12, 346	0. 9
Aircraft maintenance and manufacturing	17, 481	1. 4
Auto body and fender	12, 912	1. 0
Auto mechanics	98, 377	7. 7
Carpentry	46, 248	3. 6
Commercial art	10, 612	. 8
Construction and maintenance	20, 400	1. 6
Cook/chef	11, 882	. 9
Cosmetology	29, 957	2. 3
Custodial services	19, 391	1. 5
Drafting	39, 551	3. 1
Electrical—Lineman	19, 671	1. 5
Electricity	41, 481	3. 2
Electronics—Radio and television	18, 433	1. 4
Fireman training	107, 550	8. 5
Foremanship, manager training	79, 322	6. 2
General continuation	20, 513	1. 6
Graphic arts	28, 830	2. 3
Law enforcement	34, 111	2. 7
Masonry	18, 492	1. 4
Metals—Machine shop	93, 377	7. 7
Millwork and cabinetmaking	12, 915	1. 0
Other electrical	20, 355	1. 6
Other public services	13, 167	1. 0
Other textile and fabrication	14, 268	1. 1
Other trade and industrial	56, 837	4. 5
Plumbing and pipefitting	31, 471	2. 5
Sheet metal	20, 403	1. 6
Tailoring	25, 638	2. 0
Welding	64, 668	5. 0

[1] Data supplied by the Division of Vocational and Technical Education.

[2] Represents only 82 percent of the total enrollment in trades and industry for 1966.

TABLE 38.—*Status of persons completing programs in trades and industry during fiscal year 1966* [1]

	Number	Percent
Completed program requirements	142, 466	100
Available for placement	83, 601	59
Not available for placement	47, 691	33
Data not available	11, 174	8
Not available for placement	47, 691	100
Entered Armed Forces	16, 877	36
Continued school full time	26, 297	55
Other reasons	4, 517	9
Available for placement	83, 601	100
Placed in field trained or related	66, 546	80
Placed, unrelated to training	11, 930	14
Placed part time	2, 288	3
Unemployed	2, 837	3

[1] Data supplied by the Division of Vocational and Technical Education.

SUMMARY AND IMPLICATIONS

Enrollment in vocational education has increased substantially due to the influence of the Vocational Education Act of 1963. During the 3 years prior to the act, the average increase per year was approximately 4 percent; during the 3 years after the act, the average increase was approximately 14 percent per year.

Increases in enrollment reflected the extent to which the total program of vocational education serves the population. Enrollment in vocational education per 1,000 total population for fiscal year 1961 was 21.1; for fiscal year 1966 this total had increased to 31.3. The States vary widely in the extent to which they serve their total population; the range for fiscal year 1966 was from 9.0 per 1,000 total population to 55.1 per 1,000 population. All of the States except one increased in enrollment per 1,000 population. The differences among the States reflect the variations in commitment for providing vocational education to the people of the State.

Due to the fact that funds provided by the Vocational Education Act of 1963 were not available until September 1964, enrollment figures for fiscal year 1965 do not show the full impact of the new law. Percentage changes for fiscal year 1965 to fiscal year 1966 do show substantial gains in all occupational instruction categories.

Changes in enrollment for educational levels from fiscal year 1964 to fiscal year 1966 show that vocational education increased 43 percent in secondary school programs and 156.7 percent in post-secondary school programs. The national average for secondary school enrollment shows that enrollment in vocational education programs represents 25.4 percent of the secondary school enrollment. This varies among the States from a low of 10.5 percent to a high of 50.6 percent. Comparative data for post-secondary school programs, adult programs, and programs for youth with special needs suffer from the lack of data for a corresponding school enrollment base. In addition, States have not interpreted the educational levels consistently and enrollment data tend to be erratic. Changes in the data gathering system for fiscal year 1967 may provide more consistent data.

Increases in the number of schools offering vocational education programs and the number of teachers involved have shown apparent gains. Prior to fiscal year 1966, duplication in counting schools and teachers did not provide appropriate data for projective purposes. The unduplicated count of vocational teachers, first made in fiscal year 1966, was 124,042. Teacher demand studies indicate that the number of teachers needed in fiscal year 1966 was 13.7 percent higher than for fiscal year 1965. The implication of the teacher growth studies is that recruitment, selection, and training of teachers are major problems in the contemporary scene.

Placement and followup of students completing vocational education programs (sample was 606,872 students) indicate that 57 percent were available for occupational placement. Thirty-six percent were not available because they entered the Armed Forces, continued in school full time, and for other reasons. Data could not be obtained for 7 percent of the sample.

Of the persons available for placement, 80 percent were placed in the field for which they were trained or in a related field. Only 4 percent of those available for placement were unemployed. Placement percentages varied among the occupational categories from a high of 92 percent to a low of 67 percent.

Future statistical data concerning a variety of the facets of vocational education will be improved considerably when the Standard Terminology of the U.S. Office of Education becomes more generally applicable to educational data.

Chapter 3

Financing Vocational Education

As one base for evaluating the effectiveness of the Vocational Education Act of 1963, a review of expenditures has been made. Federal funds for vocational education are intended not only to help support, but also to encourage the State and local districts to further promote vocational education programs. The degree to which this has taken place can be seen by the continued increase in State and local expenditures reported for vocational programs. It should be noted that expenditures reported by State and local levels do not represent the total amounts they expend for vocational education. States are encouraged but not required to report funds which overmatch their Federal allocation, nor do they report those expended for nonfederally reimbursed vocational programs.

The allotments from the 1963 act were made available to the States for the first time in fiscal year 1965. Legislation prior to Public Law 88–210 made Federal funds available for particular occupational categories. Therefore, the expenditures for the period 1965 to the present are presented both by program and by the established purposes of the 1963 act.

TOTAL VOCATIONAL EDUCATION EXPENDITURES

The overall expenditures for vocational education, as reported by the States, were increased more than threefold during the sixties. They were increased from approximately $239 million in 1960 to nearly $800 million in 1966.

Between 1960 and 1964, the years immediately prior to the Vocational Education Act of 1963, there was a gradual increase averaging about 8.5 percent per year in expenditures for vocational education from Federal, State, and local sources.[1]

The impact of the Vocational Education Act of 1963 is first reflected in the expenditures reported for fiscal years 1965 and 1966.[2] Federal support for vocational education was increased from $55 million in fiscal year 1964 to about $157 million in fiscal year 1965, and to $234 million in fiscal year 1966. During the same period of time, State and local expenditures were also greatly increased. They were increased from $278 million in 1964 to $488 million in 1965, and to $566 million in 1966.

In table 39 and figure 6, expenditures by source are presented for the years 1960 through 1966. The table also shows the percentage ratio of expenditures by source of funds. It shows the relatively stable rate of growth between 1960 and 1964 prior to the 1963 act and the dramatic influence of the act on Federal, State, and local expenditures between 1964 and 1966.

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[1] State and local expenditures include only those funds which the States report as matching or overmatching their Federal allotment for reimbursable programs. They do not include State or local funds provided to the schools for nonreimbursable programs.

[2] The first allotments to the States of VEA 1963 funds were made for fiscal year 1965.

TABLE 39.—*Expenditures for vocational education, by source, fiscal years 1960–66*

Year	Total expenditure	Federal expenditure	State expenditure	Local expenditure
1960	$238, 811, 764	$45, 313, 236 [1] (19)	$82, 465, 778 (34. 5)	$111, 032, 750 (46. 5)
1961	254, 073, 395	48, 009, 534 (19)	89, 154, 684 (35)	116, 909, 177 (46)
1962	283, 948, 446	51, 438, 074 (18. 3)	104, 264, 321 (36. 7)	128, 246, 051 (45. 1)
1963	308, 899, 618	54, 581, 887 (17. 7)	112, 685, 158 (36. 5)	141, 632, 573 (45. 8)
1964	332, 785, 115	55, 026, 875 (16. 5)	124, 974, 572 (37. 5)	152, 783, 668 (46)
1965	604, 645, 726	156, 936, 015 (26)	186, 734, 833 (31)	260, 974, 879 (43)
1966	799, 894, 562	233, 793, 671 (29. 2)	216, 582, 611 (27)	349, 518, 281 (43. 7)

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[1] Number in parenthesis is the percent of total expenditure by source of funds for each year.

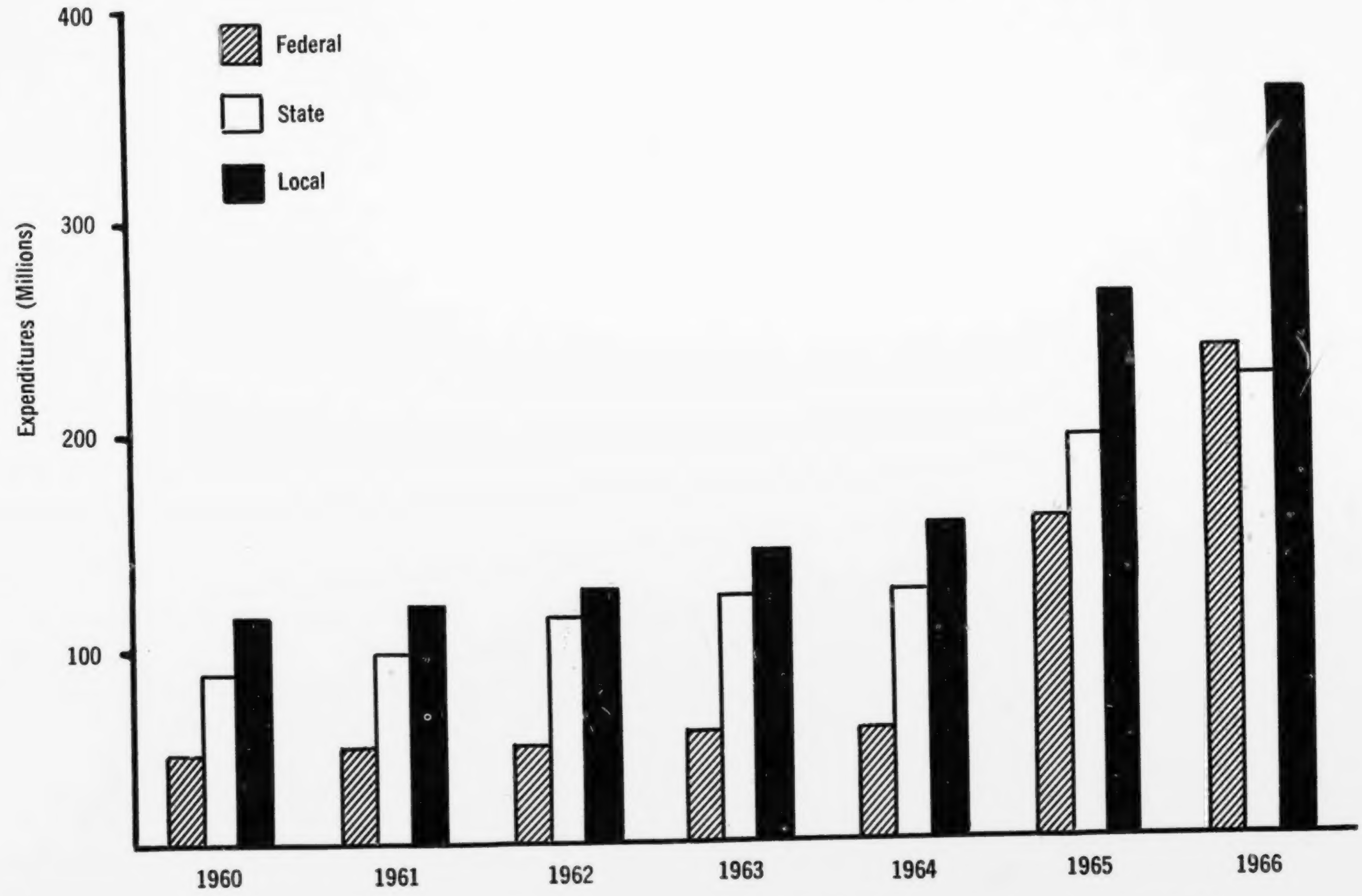

FIGURE 6.—Total Federal, State, and local expenditures for vocational education, fiscal years 1960–66.

In table 39 it can be seen that the yearly growth between 1960 and 1964 was largely an increase in expenditures from State and local sources. While the Federal expenditures were increased between 1960 and 1964 by about $9.75 million (21 percent), State and local expenditures increased about $82.25 million (45 percent) for the same period. The ratio between the total expenditures and the Federal expenditures declined from 19 to 16.5 percent for the years 1960–64. The ratio of local expenditures remained about the same for that period, and the State ratio increased from 34.5 to 37.5 percent.

It can be seen in the table that the impact of the 1963 act reversed the trend in the ratio between the Federal and State expenditures. The Federal ratio increased from 16.5 to 29.2 percent between 1964 and 1966, and the State ratio decreased 37.5 to 27 percent. The local ratio remained relatively stable during the same period.

Table 39 also indicates that the State and local levels did respond to the act with increased expenditures. It would appear from the table that State expenditures have not responded equally to the Federal and local expenditures. This is quite likely accounted for by the "time lag" in State legislative procedures. That is, most State budgets are planned at least 2 years in advance, and hence, a State response may begin to appear on the expenditures reported for fiscal year 1967. Local legislative processes, because they are less cumbersome, can generally respond more rapidly to changed conditions. This assumption appears to be borne out by the relatively stable ratio between the total expenditures and local expenditures for the years 1960–66.

It should be noted that State and local expenditures are presented separately here only to indicate general trends in expenditures for vocational education by source of funds. The combined State and local expenditure is probably more significant because of the variations among the States in allocation of State funds to the local school districts, and the fact that they are required to report only those funds, regardless of source, equal to their Federal allotment.

It should also be noted that there are no means available to determine how much of the increases shown for State and local expenditures, in response to the act, resulted from changes in reporting practices rather than actual dollar increases made available for vocational education. That is, with the increase in Federal allotments, the States, in order to demonstrate matching, began to report expenditures for programs which were not previously included in the reports. It is quite likely that there are still considerable amounts of State and local funds expended for vocational education which are not reflected in their reports.

EXPENDITURES BY OCCUPATIONAL CATEGORIES

While the 1963 act established new purposes for vocational education, reporting by the States is still largely oriented to the broad occupational fields established to meet reporting requirements of prior legislation—principally, the Smith-Hughes and George-Barden Acts. Retention of reporting by occupational categories is due in part to the fact that these acts have been retained and require that expenditures be reported in relationship to the categories for which funds have been authorized. Further complicating the development of a definitive reporting system is the authorization for the States, upon approval, to transfer funds from their Smith-Hughes and George-Barden allotments into their allotment under the 1963 act. Thus, the commingling of funds creates the problem of how they should be reported.

Reporting by broad occupational categories, however, does not reflect changes which are taking place within the programs, nor does it reflect new programs or processes introduced to accommodate the new purposes.

To determine trends in expenditures in the occupational categories, and the influence of the Vocational Education Act of 1963 on these trends, the expenditures by program are reviewed for the years 1962 through 1966 (see table 40). For the years prior to the act, all expenditures shown for the years 1962 through 1964 represent the total reported expenditures for vocational education for those years. As can be seen in the table, the 1963 act authorized expenditures for purposes not included in prior legislation, and, therefore, category expenditures for 1965 and 1966 do not equal the total expenditures for vocational education.

For comparative purposes a percentage distribution is made by category (table 41). This comparison relates the total expenditures reported for each occupational category to the total expenditures for vocational

TABLE 40.—*Total expenditures for vocational education, by source and by occupational category*

[In thousands of dollars]

	1962	1963	1964	1965	1966
Total expenditures	$283, 948	$308, 900	$332, 785	$604, 646	$799, 895
Federal	51, 438	54, 582	55, 027	156, 936	233, 795
State and local	232, 510	254, 318	277, 758	447, 710	566, 101
Total expenditures reported by occupational category				487, 712	588, 003
Agriculture	73, 292	74, 478	77, 474	36, 840	88, 755
Federal	13, 645	13, 700	13, 719	20, 423	25, 629
State and local	59, 647	60, 778	63, 855	66, 417	63, 126
Distributive	9, 660	13, 292	14, 882	21, 592	27, 847
Federal	2, 565	2, 570	2, 580	4, 595	7, 046
State and local	8, 841	10, 922	12, 302	16, 996	20, 801
Health occupations	9, 660	11, 037	12, 457	19, 704	21, 777
Federal	3, 834	4, 543	4, 760	5, 350	6, 108
State and local	5, 825	6, 495	7, 696	14, 354	15, 669
Home economics	79, 898	83, 328	89, 872	98, 872	113, 091
Federal	8, 874	8, 855	8, 874	9, 769	11, 062
State and local	71, 024	74, 472	80, 998	88, 639	102, 029
Office				53, 673	91, 590
Federal				12, 120	23, 417
State and local				41, 553	68, 173
Technical (area)	24, 606	32, 556	34, 907	62, 612	59, 401
Federal	11, 043	13, 454	13, 599	21, 027	19, 854
State and local	13, 563	19, 099	21, 310	41, 585	39, 547
Trade and industry	85, 087	93, 964	102, 949	144, 882	185, 541
Federal	11, 477	11, 369	11, 403	34, 024	50, 194
State and local	73, 610	82, 596	91, 546	110, 858	135, 347
Fisheries	232	244	242	378	677
Federal	94	89	93	77	284
State and local	140	257	150	301	392
Construction				107, 726	160, 615
Federal				42, 730	61, 822
State and local				64, 996	98, 793
Guidance				1, 483	4, 613
Federal				294	1, 050
State and local				1, 189	3, 563
Work study				2, 829	20, 895
Federal				2, 800	20, 391
State and local				30	514
Other (n.e.c.) [1]				4, 517	25, 090
Federal				3, 737	6, 944
State and local				790	18, 146

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[1] Includes expenditures for travel of State personnel, communications, supplies, printing, rental of space, heat, light, and janitor services.

TABLE 41.—*Percentage distribution of total expenditures, by occupational category and by source*

Program	1962	1963	1964	1965	1966
Agriculture	[1] 25.7	24.1	23.3	17.8	15.1
Federal	[2] 18.6	18.4	18.0	23.5	29.9
State and local	81.4	81.6	82.9	76.5	71.1
Distributive	4.0	4.2	4.5	4.4	4.7
Federal	22.5	19.3	17.3	21.3	25.3
State and local	77.5	80.7	82.6	78.7	74.7
Health occupations	3.5	3.7	3.3	4.0	3.7
Federal	39.7	41.2	38.2	27.2	28.0
State and local	60.3	58.8	61.8	72.8	72.0
Home economics	28.2	26.9	26.8	20.2	19.2
Federal	11.1	10.6	9.9	9.9	9.8
State and local	88.9	89.4	90.1	90.1	90.2
Office				11.0	15.6
Federal				22.6	25.6
State and local				77.4	74.4
Technical education	8.7	10.7	10.5	12.8	10.1
Federal	45.8	41.2	39.0	33.6	33.4
State and local	54.2	58.7	61.0	66.4	66.6
Trades and industries	29.9	30.4	30.9	29.7	31.6
Federal	13.5	12.1	11.1	23.5	27.1
State and local	86.5	87.9	88.9	76.5	72.9

[1] Percentage of total vocational education funds expended for each category.

[2] Percentage ratio expended within each category.

education for each of the years 1962 through 1964. For 1965 and 1966, the expenditures reported for each category are related only to that portion of the total expenditures reported within the occupational categories. It does not include construction, guidance, work study, and "not otherwise classified." The year-by-year changes in expenditures for each program category are shown in table 42.

In reviewing these tables it can be seen that while the total expenditures for vocational education increased each year, there was also a modification in the distribution of funds by occupational category. For instance, in 1962 approximately 54 percent of the available funds were expended for agriculture and home economics. In each succeeding year the percentage declined, and in 1966 these programs accounted for about 34 percent of the expenditures reported by category. A major factor influencing the redistribution of funds has been the inclusion of office programs. These programs became eligible for reimbursement under the Vocational Education Act of 1963, and in 1965 the programs accounted for 11 percent of the expenditures, increasing to 15.6 percent in 1966. The other occupational categories—distributive, health, technical, and trade and industry—show a relatively stable pattern in terms of the percentage distribution.

Table 42 compares the expenditures in terms of percentage change from the previous years. In comparing table 41 with table 42, it can be seen that in 1965 distributive, health, and technical education programs, while they maintained about the same position in terms of the ratio of percentage distribution, show a marked percentage increase over the 1964 expenditures (table 42). In 1966, health and distributive education again show a percentage increase in expenditures over 1965; however, technical education declined. The total expenditure reported for technical education was about $3 million less in 1966 than in 1965. This decline is partially accounted for by changes in the reporting system. Electronic data processing, which had formerly been reported as one of the technician programs, was reclassified under office occupations, and other changes were also made in reclassifying programs according to the U.S. Office of Education taxonomy.

The increase in expenditures for home economics includes both useful and gainful programs. In 1966, the total expenditure for home economics was about $113 million; of that amount approximately $15 million (7.5 percent) was for gainful occupations.

Federal funds reported as expenditures in occupational categories show an average of $24 per student in fiscal year 1966. However, the averages within the categories range from $6 per student in home economics to $78 per student in technical education.

It should be noted that the comparisons made in the tables are related to total enrollments, and therefore, offer only a broad overview of the variations between occupational fields.

Table 42.—*Percentage change in expenditures from previous year, by category, fiscal years 1962–66*

	1962	1963	1964	1965	1966
Agriculture:					
Combined total	5.1	1.6	11.4	12.1	2.2
Federal total	−.4	.5	.2	11.1	25.5
State and local total	6.3	1.9	4.7	4.1	−5.0
Distributive:					
Combined total	7.2	14.2	10.7	31.1	29.0
Federal total	.4	.3	.4	82.2	54.4
State and local total	9.2	17.4	13.1	27.7	23.0
Health occupations:					
Combined total	22.9	12.5	11.4	36.8	10.5
Federal total	8.8	15.7	4.6	11.1	14.2
State and local total	32.2	10.4	15.7	46.4	9.2
Home economics:					
Combined total	9.2	4.2	7.3	8.7	[1] 14.9
Federal total	−.8	−.3	.3	9.2	13.2
State and local total	10.4	4.7	8.1	8.7	15.1
Office:					
Combined total					[2] 64.0
Federal total					90.3
State and local total					70.6
Technical education:					
Combined total		24.5	6.8	44.3	−5.5
Federal total		18.0	1.1	34.5	−5.6
State and local total		29.0	10.4	48.8	−4.9
Trades and industry:					
Combined total	11.4	9.5	8.8	29.0	21.2
Federal total	.4	−1.0	.4	66.5	47.5
State and local total	13.2	10.9	9.8	17.5	22.1

[1] Reported for the first time in 1965.

[2] Includes both useful and gainful programs.

The reporting system presents severe limitations to any type of analysis that can be made. It does not provide enrollment and expenditures for the different levels of instruction. Further, in reporting by broad occupational programs, there is no way to determine variations of specific programs within the occupational fields.

EXPENDITURES BY PURPOSE

The Vocational Education Act of 1963 established four classifications of persons to be served by vocational education—(1) those attending high school, (2) those not attending high school and available for full-time study, (3) those who have already entered the labor market and who need training or retraining, and (4) those who have academic, socioeconomic, or other handicaps that prevent them from succeeding in regular vocational programs.

In addition to the types of persons to be served, the act provided for facility construction, and for ancillary services to improve the quality of administration and curriculum of vocational education.

In the following tables the expenditures by purpose of the act are presented. These tables compare changes between fiscal year 1965 and fiscal year 1966 in terms of enrollments and expenditures by source of funds and combined totals.

The Federal expenditures shown for each purpose reflect those funds which were approved for transfer from Smith-Hughes and George-Barden Acts into VEA 1963 allotments, and less those which were unexpended by the States.

Table 43.—*Comparison of Federal expenditures with total enrollment for vocational education, fiscal years 1962–66*

Year	Enrollment	Expenditure (in thousands)	Average per enrollee
1962	4,072,677	$51,438	$13
1963	4,217,198	54,582	13
1964	4,566,390	55,027	12
1965	5,430,611	[1] 107,308	20
1966	6,070,059	[1] 143,310	24

[1] Includes only funds reported expended by program, does not include expenditures for construction or ancillary.

Table 44.—*Comparison of Federal expenditures with total enrollments for agricultural education, fiscal years 1962–66*

Year	Enrollment	Expenditure (in thousands)	Average per enrollee
1962	822, 664	$13, 645	$17
1963	827, 827	13, 670	17
1964	860, 605	13, 719	16
1965	887, 529	20, 423	23
1966	907, 354	25, 629	28

Table 45.—*Comparison of Federal expenditures with total enrollment for distributive education, fiscal years 1962–66*

Year	Enrollment	Expenditure (in thousands)	Average per enrollee
1962	321, 065	$2, 565	$8
1963	309, 593	2, 570	8
1964	334, 126	2, 580	8
1965	333, 342	4, 595	14
1966	420, 426	7, 046	17

Table 46.—*Comparison of Federal expenditures with total enrollment for health occupations education, fiscal years 1962–66*

Year	Enrollment	Expenditure (in thousands)	Average per enrollee
1962	48, 985	$3, 834	$78
1963	53, 975	4, 543	84
1964	59, 006	4, 760	81
1965	66, 672	5, 350	80
1966	83, 677	6, 108	73

Table 47.—*Comparison of Federal expenditures with total enrollment for home economics education, fiscal years 1962–66*

Year	Enrollment	Expenditure (in thousands)	Average per enrollee
1962	1, 725, 660	$8, 874	$5
1963	1, 839, 450	8, 855	5
1964	2, 022, 138	8, 874	4
1965	2, 098, 520	9, 769	5
1966	1, 897, 670	11, 062	6

Table 48.—*Comparison of Federal expenditures with total enrollment for office education, fiscal years 1965 and 1966*

Year	Enrollment	Expenditure (in thousands)	Average per enrollee
1965	730, 904	$12, 120	$17
1966	1, 238, 043	23, 417	19

Table 49.—*Comparison of Federal expenditures with total enrollment for technical education, fiscal years 1962–66*

Year	Enrollment	Expenditure (in thousands)	Average per enrollee
1962	148, 920	$11, 043	$74
1963	184, 595	13, 458	73
1964	221, 241	13, 597	61
1965	225, 737	21, 027	93
1966	253, 838	19, 854	78

Table 50.—*Comparison of Federal expenditures with total enrollment for trade and industrial education, fiscal years 1962–66*

Year	Enrollment	Expenditures (in thousands)	Average per enrollee
1962	1, 005, 383	$11, 427	$11
1963	1, 001, 776	11, 367	11
1964	1, 069, 274	11, 403	11
1965	1, 087, 807	34, 042	31
1966	1, 269, 051	50, 194	40

Secondary School Expenditures

The high school enrollment in vocational education constitutes approximately 50 percent of the total enrollment in vocational education. One impact of the Vocational Education Act of 1963 has been the large growth in the secondary school enrollment in vocational education programs. As reported in Chapter 2, Growth and Development of Vocational Education, enrollments increased approximately 43 percent between 1964 and 1966.

In table 51, a comparison is made between enrollments, expenditures, and the percentage changes which have taken place during the 2 years in which data has been provided by purpose as well as by occupational category. Expenditures for vocational education at the high school level more than doubled in 1966 over 1965.

Expenditures for Persons Who Have Left High School

The emphasis within this classification has been on the development and expansion of vocational and technical education at the post-secondary level. Post-secondary schools include combined high and post-high schools, community or junior colleges, universities or colleges, combination secondary/post-secondary vocational schools, and private junior colleges and technical institutes under contract.

TABLE 51.—*Comparison of enrollments and expenditures for persons in secondary schools, fiscal years 1965 and 1966*

Year	Enrollment	Expenditure			
		Federal	State	Local	Total
1965	2, 819, 250	$32, 398, 818	$25, 615, 486	$37, 769, 184	$95, 783, 488
1966	3, 048, 248	57, 481, 358	54, 757, 923	91, 269, 477	203, 508, 754
	[1] (8. 6)	[1] (77. 4)	[1] (113. 8)	[1] (141. 7)	[1] (112. 5)

[1] Percentage change from the previous year.

Enrollments in post-secondary vocational education programs have increased 156.7 percent between 1964 and 1966. The increase between 1965 and 1966 amounted to 113 percent.

As can be seen in table 52, post-secondary school expenditures were increased approximately 60 percent between 1965 and 1966. The average expenditure per enrollee is more than three times greater than for the high school level program. The major reason for the difference is in the types of programs and the amount of time per day the students spend in vocational classes.

Most technical education programs are offered in the post-secondary institutions, and the costs for technical programs, because of material and equipment, lower enrollments, and higher instructional costs, are somewhat greater. Students enrolled in vocational or technical programs in post-secondary schools generally devote a greater amount of the school day to these programs than do students at the high school level. Only three States did not report expenditures for this purpose in 1966.

TABLE 52.—*Comparison of enrollments and expenditures for post-secondary schools, fiscal years 1965 and 1966*

Year	Enrollment	Expenditure			
		Federal	State	Local	Total
1965	207, 201	$13, 444, 552	$19, 846, 045	$20, 505, 978	$53, 796, 575
1966	442, 097	26, 380, 578	28, 830, 564	33, 007, 357	88, 218, 397
	[1] (113. 4)	[1] (96. 2)	[1] (45. 2)	[1] (61. 0)	[1] (63. 9)

[1] Percentage change from the previous year.

Expenditures for Adults

Vocational education for adults serves both a training and retraining function. This program is basically for persons who have already entered the labor market and who need training or retraining to achieve stability or advancement in employment. Adult vocational programs are generally short-term programs in a given occupation, and are attended on a part-time basis.

While there have been several States and many communities which have long offered excellent programs in adult education, in general, it has been slow to develop in most parts of the Nation. Many communities have been reluctant to assume responsibility for the added financial burden in view of the difficulty in providing adequate budgets for their already existing public education. Therefore, adult education in most States and communities has, until recently, been totally or nearly self-supporting through fees charged to the students. Table 53 compares enrollments and expenditures for adult education in 1965 and 1966.

TABLE 53.—*Comparison of enrollments and expenditures for adult education, fiscal years 1965 and 1966*

Year	Enrollment	Expenditures			
		Federal	State	Local	Total
1965	2, 378, 522	$6, 131, 385	$7, 290, 353	$5, 240, 793	$18, 662, 531
1966	2, 530, 712	8, 101, 425	9, 983, 978	15, 837, 833	33, 923, 233
	[1](6. 0)	[1](32. 3)	[1](37. 0)	[1](202. 2)	[1](81. 8)

[1] Percentage change from the previous year.

Table 54.—*Comparison of enrollments and expenditures for persons with special needs, fiscal years 1965 and 1966*

Year	Enrollment	Expenditures			
		Federal	State	Local	Total
1965	25, 638	$345, 978	$104, 906	$354, 440	$805, 324
1966	49, 002	1, 852, 504	1, 156, 558	2, 039, 550	5, 048, 614
	[1] (91. 1)	[1] (435. 0)	[1] (1, 100. 0)	[1] (476. 0)	[1] (527. 0)

[1] Percentage change from the previous year.

Expenditures for Persons With Special Needs

The enrollment in vocational education for persons with special needs, shown in table 54, almost doubled between 1965 and 1966, and expenditures increased greatly.

Expenditures for Area School Construction

The Vocational Education Act of 1963 provided funds to the States for construction of vocational facilities. This provision was in keeping with the purpose of the act to make vocational education readily accessible to all persons.

Emphasis was placed upon facility construction by requiring that at least 33⅓ percent of the allotment to each State would be used for construction of area vocational education school facilities or for vocational education for persons who have left high school and are available for full time study.[3]

The funds could be used to expand, remodel, and alter existing buildings as well as to construct new facilities. As shown in table 55, about $108 million was expended for this purpose in 1965, and approximately 50 percent more was expended in 1966. In 1965, a total of 228 projects were funded, while 340 were funded in 1966.

As noted in another section of this report, the extent to which the local districts have been able to embark on new construction or on renovating facilities has been limited by their inability to meet the matching requirement for funds. The matching requirement has been a deterrent to improvement in both the large cities and rural areas. Within the large cities the construction needs require enormous amounts of matching funds. In the rural areas there is a need for area vocational schools which serve several school jurisdictions. The problem becomes one of reaching agreements on financial and administrative matters between the jurisdictions.

Table 55.—*Comparison of expenditures for area school construction, fiscal years 1965 and 1966*

Year	Expenditures			
	Federal	State	Local	Total
1965	$42, 729, 943	$16, 053, 789	$48, 942, 231	$107, 725, 963
1966	61, 822, 020	24, 193, 658	74, 599, 670	160, 615, 345
	[1](44. 7)	[1](50. 7)	[1](52. 4)	[1](49. 1)

[1] Percentage change from previous year.

Expenditures for Ancillary Services

Public Law 88–210 requires that at least 3 percent of the allotment of each State be used for ancillary services to assure quality in all vocational education programs, such as teacher training and supervision, program evaluation, special demonstration and experimental programs, development of instructional materials, and State administration and leadership.

During the fiscal year 1965 the States reported expenditures equal to nearly 5 percent of their allotments. This percentage increased to over 10 percent for 1966. In table 56 the expenditures for ancillary services for each of the years is presented by source and by percentage change from the preceding year.

Program evaluation and experimental programs apparently have received relatively little attention in terms of ancillary funds. In another section of this report, attention is given to the support services for vocational education. That section, by implication, will stress the needs for ancillary services and the emphasis needed for certain of the services.

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[3] Public Law 88–210, 88th Cong., Dec. 18, 1963, sec. 4(b).

TABLE 56.—*Comparison of expenditures for ancillary services, fiscal years 1965 and 1966*

Year	Expenditures			
	Federal	State	Local	Total
1965	$5,258,128	$9,606,549	$5,466,105	$20,330,782
1966	17,251,454	15,989,135	16,422,719	49,663,313
	[1] (280.0)	[1] (66.4)	[1] (200.5)	[1] (144.3)

[1] Percentage change from previous year.

Expenditures for Work-Study Programs

Residential schools and work-study programs, while not among the purposes specified in section 4 of the act, were included in the act as means of partly accomplishing the purposes specified in the act.

The act authorized the appropriation of $30 million for 1965, $50 million for 1966, and $35 million for the 2 succeeding years for these purposes. However, only $5 million was appropriated for 1965 and $25 million for 1966. The appropriation was reduced to $10 million for 1967, and was omitted entirely in the 1968 Presidential budget. Because funds for this portion of the act were not fully appropriated, residential schools were not implemented and the work-study programs were only partially implemented.

In table 57, a comparison is made for the years 1965 and 1966. It can be seen that the number of students in work-study programs more than tripled, while the expenditures per enrollee more than doubled. Although this portion of the act does not require matching funds, both the State and local levels increased their expenditures for this purpose.

TABLE 57.—*Comparison of enrollment and expenditures for work study, fiscal years 1965 and 1966*

Year	Enrollment	Expenditure			
		Federal	State	Local	Total
1965	18,563	$2,799,794	0	$29,703	$2,829,497
1966	68,386	20,381,100	$190,475	323,674	20,895,249
	[1] (268.4)	[1] (628.2)		[1] (989.7)	[1] (638.6)

[1] Percentage change from the previous year.

SUMMARY

Funds available for vocational education, as shown by reported expenditures, have greatly increased during the 1960's. Prior to the Vocational Education Act of 1963, expenditures for vocational education were increasing about 8.5 percent per year, principally from State and local sources. In 1960, State and local funds represented about 80 percent of the expenditures reported for vocational education; these funds had increased to almost 85 percent by 1964.

The impact of the Vocational Education Act of 1963 is shown, in part, by the increased expenditures for vocational education. The act not only provided additional Federal funds, but it also stimulated increased expenditures by States and local areas. The influence is seen in the increase from about $333 million in 1964 to over $600 million in 1965, the first year in which funds were made available to the States under the new act.

Evaluation of the effect of the Vocational Education Act of 1963 is made difficult by the reporting system. The States report their total expenditures for vocational education by the broad occupational categories. As a result, new programs and new directions are not reflected. In reporting by the occupational categories, there is no breakdown of the expenditures within the category by educational level, and, therefore, unit costs cannot be established for programs.

In addition to reporting by occupational categories, the States also report by the purposes established by the act. However, only VEA 1963 and transferred funds are included in the report by purpose; funds expended under the Smith-Hughes Act and the George-Barden

Act and State matching funds are not reflected in reporting by purpose. With these limitations, the effect of the Vocational Education Act of 1963 on vocational programs must be inferred by the changes in categorical expenditures and by the expenditures reported by purpose.

The distribution of funds by occupational program category has shown some change. In comparing the percentage distribution of funds by occupational category between 1964 and 1966, it was shown that the percentage of the total funds expended for agriculture declined from 23.3 to 15.1 percent; expenditures in home economics declined from 26.8 to 19.2 percent of the total; distributive, health, technical, and trades and industries programs changed fractionally; office occupations programs, which were new under the 1963 act, now account for 15.6 percent of the expenditures.

While the percentage distribution by categories indicated only fractional changes in relationship to total expenditures for distributive, health, and technical programs, the emphasis given these programs can be seen when the percentage increase in expenditures in the categories in 1965 is compared with 1964. Expenditures for distributive programs were increased 31.1 percent, expenditures for health programs were increased 36.8 percent, and expenditures for technical programs were increased 44.3 percent. This compares with the 12.1- and 8.7-percent increases made for agriculture and home economics, respectively.

A comparison of Federal funds expended per enrollee in the occupational programs shows wide variations. The expenditures range from $6 per enrollee in home economics to $78 in technical education programs. The average expenditure of Federal funds per enrollee, including all programs, was $24 in 1966.

The Vocational Education Act of 1963 established six purposes for which Federal funds were authorized. Reporting by purpose was first made in 1965. Comparisons are limited to the changes in expenditures which have taken place between 1965 and 1966. The secondary school enrollment constitutes approximately half the total enrollment in vocational education. Total expenditures for this purpose were more than doubled between 1965 and 1966.

Considerable emphasis has been given to the postsecondary programs. Expenditures for this purpose were increased over 60 percent between 1965 and 1966. The average expenditure per enrollee at the postsecondary level is more than three times that at the secondary level.

Vocational education for adults serves both a training and retraining function. The expenditures for this purpose were increased 81.8 percent from $18.7 million in 1965 to $33.9 million in 1966.

Expenditures in programs for persons with special needs were greatly increased in 1966 over 1965. The much greater increase in expenditures (over 500 percent) compared with the relatively small enrollment appears to indicate considerable emphasis on program development. Enrollments in this category should begin to accelerate as programs are developed and implemented.

Through the Vocational Education Act of 1963 funds were provided for facility construction. Approximately $108 million was expended for this purpose in 1965 and over $160 million in 1966. There were 228 construction projects funded in 1965 and 340 in 1966.

The Vocational Education Act of 1963 required that at least 3 percent of each State's allotment would be used for ancillary purposes to support and improve the vocational programs. For 1965, the States reported nearly 5 percent of their expenditures for this purpose, and they exceeded 10 percent in 1966. Categorical breakdown of the category is not provided. However, it does appear that considerable portions of these funds were used to increase administrative and supervisory staffs, teacher education, and counseling and guidance services.

In addition to the six purposes, the Vocational Education Act of 1963 also provided authorization of expenditures for residential schools and work-study programs. Because funds for this portion of the act were not fully appropriated, residential schools were not implemented and work-study programs were only partially implemented. The enrollments in work-study programs were nearly tripled between 1965 and 1966, and expenditures were increased from less than $3 million to over $20 million. Federal appropriations for this purpose were reduced to $10 million in 1967 and were entirely omitted in the 1968 Presidential budget.

Chapter 4

Administration of Vocational Education

The major principle underlying administrative responsibility is helping to create the optimum environment for the most efficient and effective teaching-learning process to take place. The structural organization established for purposes of administration will determine, to a great degree, how effective an agency will be in discharging its responsibility.

Responsibility for administration of vocational education comes from both Federal and State legislation, and from school board policy, rules, and regulations at the local level. Therefore, administrative responsibility rests at three levels—Federal, State, and local. In addition to mandated requirements, administration is also responsible for coordination, supervision, solution of operational problems, and program planning and development.

The structure of the organization for administration should reflect the responsibilities for each level of administration in order to avoid conflict over rights and responsibilities, and yet, it should be related closely enough to establish maximum communication and cooperation between each level.

The following section briefly describes the organizational structure of vocational education at the Federal level, the changes which have taken place, and the relationship of vocational education to the total structure of the Office of Education.

FEDERAL ADMINISTRATIVE ORGANIZATION

In a reorganization of the Office of Education in 1962, the bureau level of administration was introduced. Each of the newly established bureaus was administered by an associate commissioner of education. The Division of Vocational and Technical Education was placed within the Bureau of Educational Assistance Programs. The administrative structure under this reorganization is shown in figure 7.

It was noted by the Panel of Consultants on Vocational Education that the organizational structure had changed during the years since 1917. In the beginning, the Federal Board for Vocational Education was responsible directly to the President and the Congress.

In 1933, the Federal Board for Vocational Education was changed from an independent administrative agency to an advisory board. The director of the Federal board was made an assistant commissioner for vocational education within the Office of Education and was responsible to the Commissioner of Education. This organizational structure remained essentially the same between 1933 and 1962. (The Federal Board for Vocational Education, which had served in an advisory capacity since 1933, was abolished in 1946.)

Figure 7, therefore, represents the organizational structure that existed at the time of the study made by the panel of consultants.

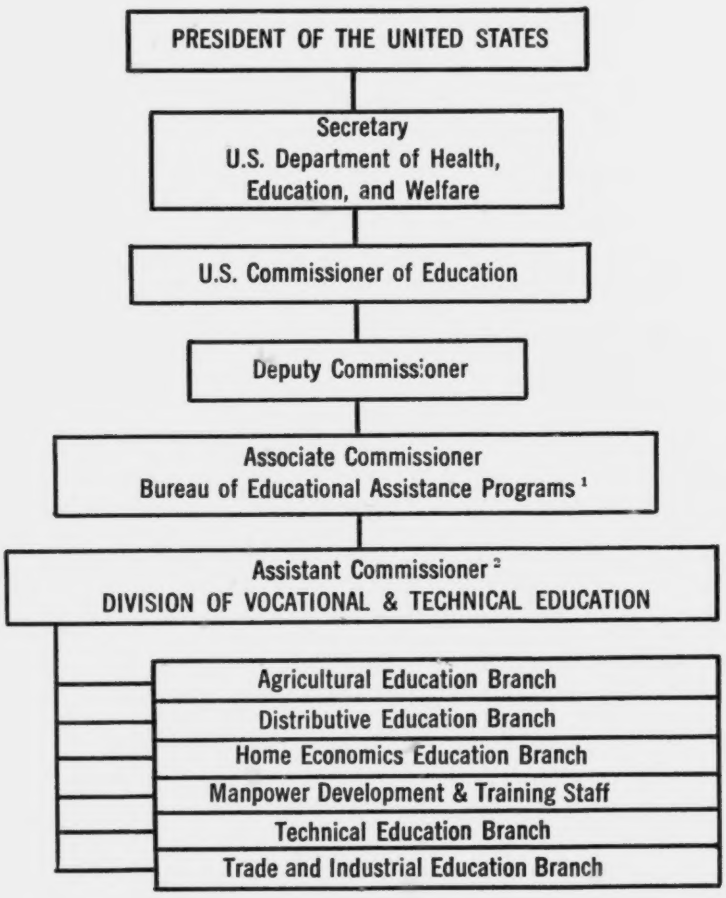
PRESIDENT OF THE UNITED STATES
Secretary
U.S. Department of Health, Education, and Welfare
U.S. Commissioner of Education
Deputy Commissioner
Associate Commissioner
Bureau of Educational Assistance Programs [1]
Assistant Commissioner [2]
DIVISION OF VOCATIONAL & TECHNICAL EDUCATION
Agricultural Education Branch
Distributive Education Branch
Home Economics Education Branch
Manpower Development & Training Staff
Technical Education Branch
Trade and Industrial Education Branch

FIGURE 7.—Administrative structure for vocational education, 1962.

The Smith-Hughes Act specified programs eligible for support. It was logical, therefore, that the early administrative structure for vocational education would evolve along program lines. Each of the States developed a similar organization pattern—modified slightly by population and geographic differences.

The Vocational Education Act of 1963 influenced the administrative direction of vocational education. The act moved away from specific program support to open support for the broad area of vocational education. The administrative responsibility under the act was to maintain, extend, and improve existing programs, and to develop new programs so that persons of all ages in all communities would have ready access to vocational education. The programs were to be realistic in terms of actual or anticipated opportunities for gainful employment, and suited to the needs, interests, and abilities of persons who could benefit from such training.

In response to the act, the Division of Vocational and Technical Education was reorganized in 1964 to more effectively administer the broadened responsibilities. The reorganization represented a shift from the occupational field organization, initiated under the Smith-Hughes Act, to one designed for unified programs and additional services. Figure 8 shows the organizational structure of the Division of Vocational and Technical Education after the 1964 reorganization.

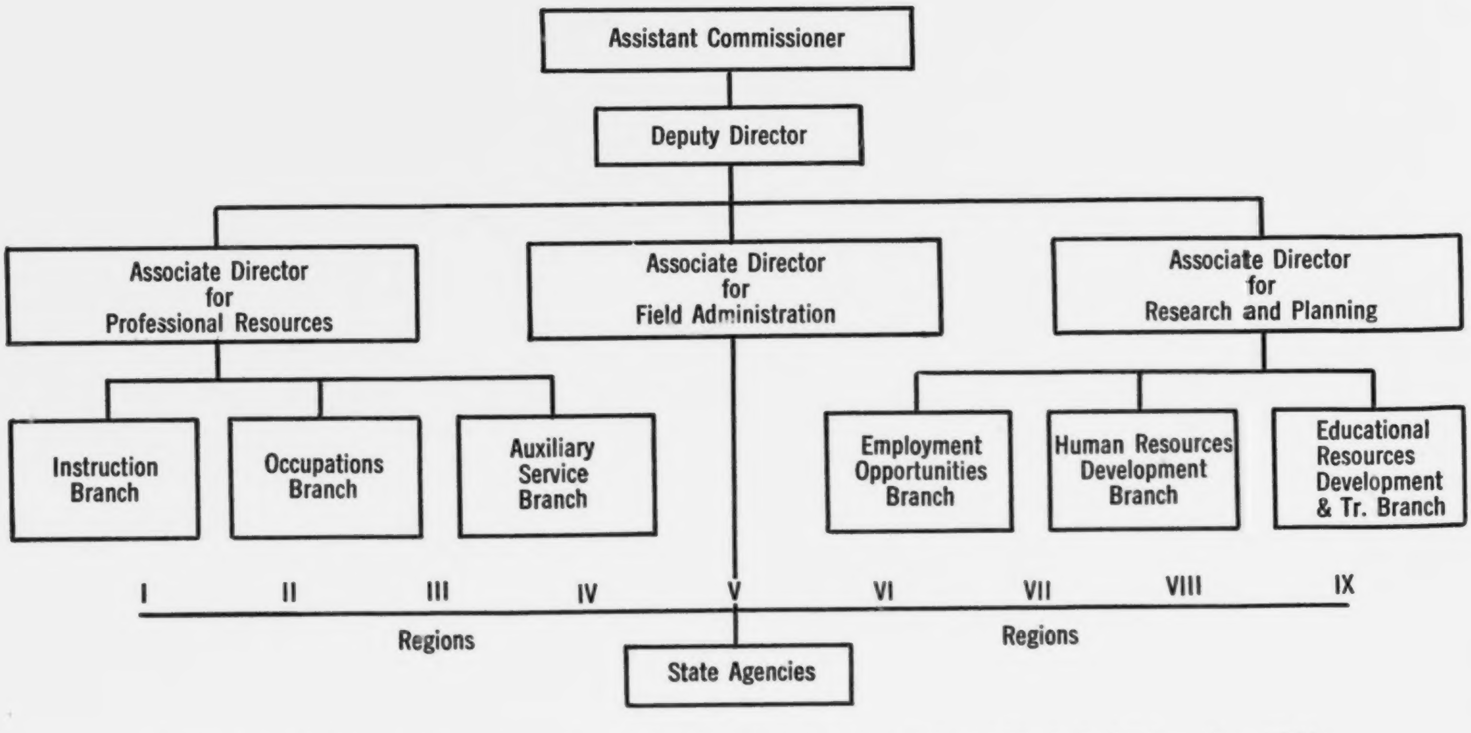
Assistant Commissioner
Deputy Director
Associate Director for Professional Resources
Associate Director for Field Administration
Associate Director for Research and Planning
Instruction Branch
Occupations Branch
Auxiliary Service Branch
Employment Opportunities Branch
Human Resources Development Branch
Educational Resources Development & Tr. Branch
I
II
III
IV
V
VI
VII
VIII
IX
Regions
Regions
State Agencies

FIGURE 8.—Administrative organization of the Division of Vocational and Technical Education, 1964.

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[1] One of three associate commissioners in the Office of Education.

[2] One of three assistant commissioners in the Office of Education.

This reorganization and subsequent modifications were closely related to the reorganization of the Office of Education. A White House Task Force on Education conducted a study of the Office of Education and made a series of recommendations for reorganization.[1]

The recommendation of the task force relating directly to vocational education suggested the creation of two new bureaus. One was proposed as the Bureau of Adult and Vocatioal Education. "Its purpose was to provide impetus and focus to the several expanding or emerging programs for adult and vocational education."[2] The second was proposed as the Bureau of Research. This bureau would draw its function from the several bureaus and would have primary responsibility for all research. Thus, research was removed from the Division of Vocational and Technical Education by this reorganization which was made effective in August 1965. At the same time, Manpower Development and Training was designated as a branch within the division.

Subsequent changes have further modified the organizational structure of the division. In August 1966, Manpower Development and Training was removed as a branch of the division, and was made a separate division within the Bureau of Adult and Vocational Education. In January 1966, Fiscal Services, and, in February 1967, Information and Publications, were removed from the division and placed under the administrative responsibility of the Bureau. The present organizational structure of the Bureau of Adult, Vocational, and Library Programs is shown in figure 9. The organization of the Division of Vocational and Technical Education is illustrated in figure 10.

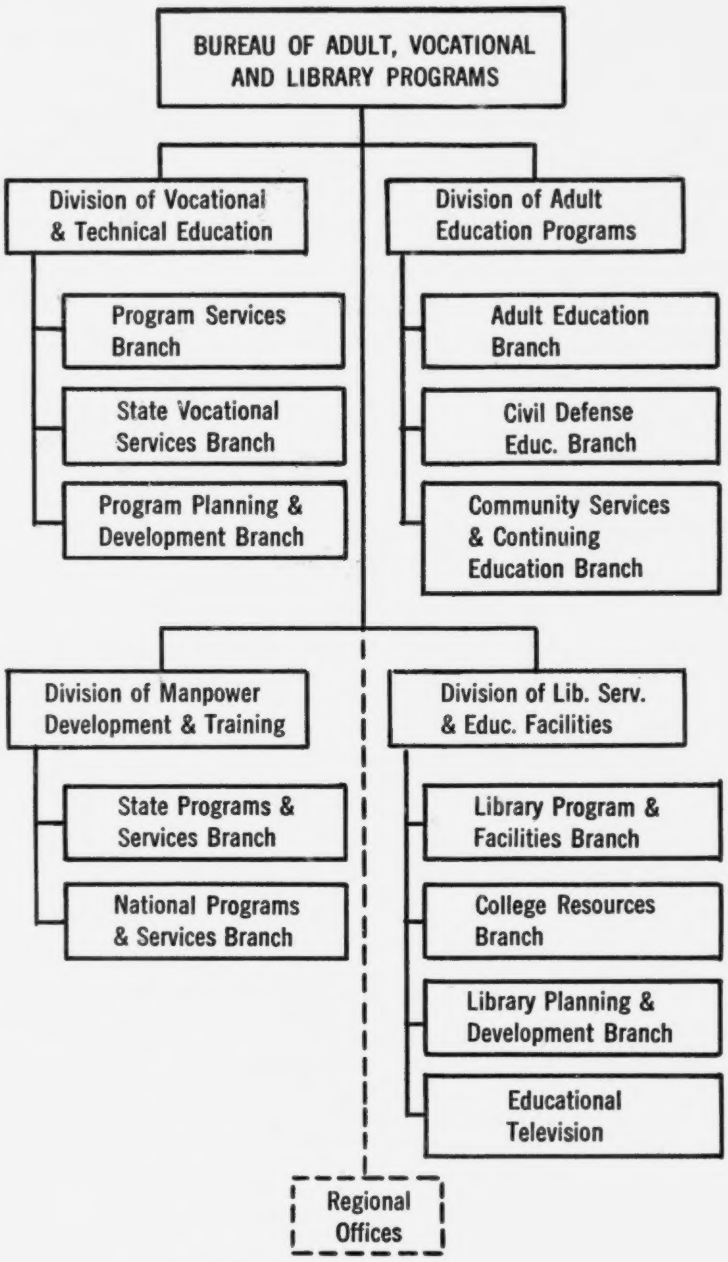
BUREAU OF ADULT, VOCATIONAL AND LIBRARY PROGRAMS
Division of Vocational & Technical Education
Program Services Branch
State Vocational Services Branch
Program Planning & Development Branch
Division of Adult Education Programs
Adult Education Branch
Civil Defense Educ. Branch
Community Services & Continuing Education Branch
Division of Manpower Development & Training
State Programs & Services Branch
National Programs & Services Branch
Division of Lib. Serv. & Educ. Facilities
Library Program & Facilities Branch
College Resources Branch
Library Planning & Development Branch
Educational Television
Regional Offices

FIGURE 9.—Administrative structure, Bureau of Adult, Vocational, and Library Programs, June 30, 1967.

The present division structure is composed of the following three branches.

1. Program Services Branch—
   - *a.* Curriculum and instructional materials;
   - *b.* Ancillary services.
2. State Vocational Services Branch—
   - *a.* State plans and activities;
   - *b.* Occupations.
3. Program Planning and Development Branch—
   - *a.* Program planning and development;
   - *b.* Facilities planning and development.

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[1] Recommendations of the White House Task Force on Education, Dwight A. Ink, Chairman, June 14, 1965 (mimeograph).

[2] *Op. Cit.*, p. 29.

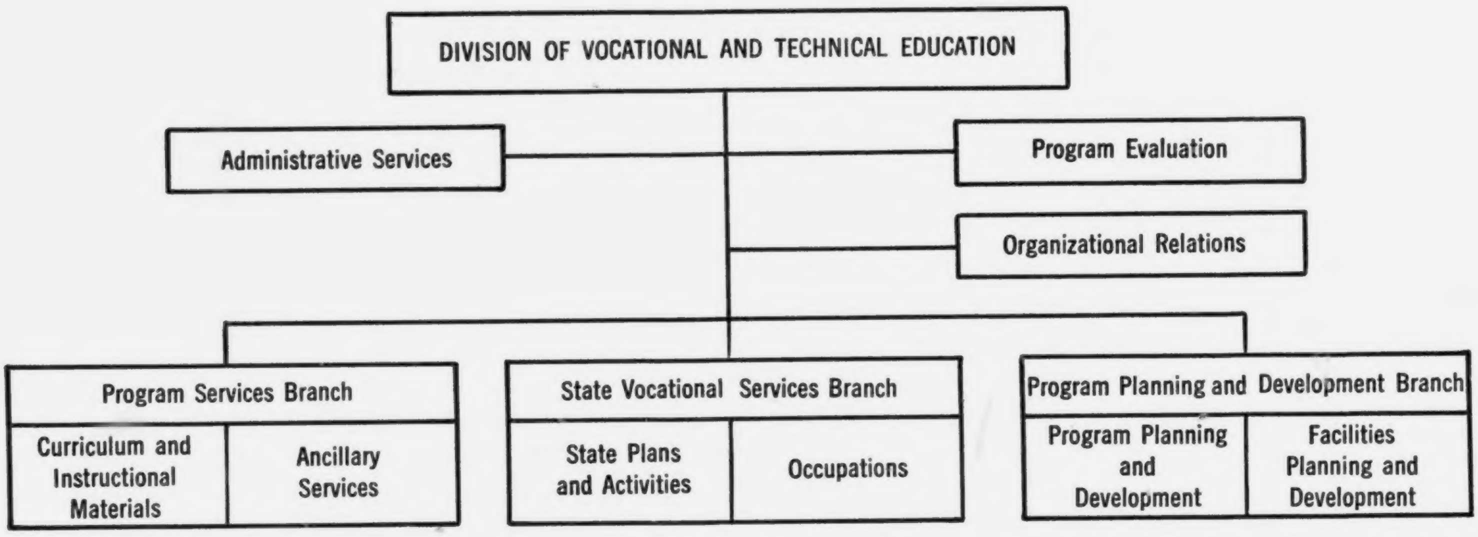
DIVISION OF VOCATIONAL AND TECHNICAL EDUCATION
Administrative Services
Program Evaluation
Organizational Relations
Program Services Branch
Curriculum and Instructional Materials
Ancillary Services
State Vocational Services Branch
State Plans and Activities
Occupations
Program Planning and Development Branch
Program Planning and Development
Facilities Planning and Development

FIGURE 10.—Administrative organization of the Division of Vocational and Technical Education, June 30, 1967.

FEDERAL ADMINISTRATIVE RESPONSIBILITIES

The changes in administrative responsibility resulting from the Vocational Education Act of 1963 were of two kinds. The first was continuation, expansion, and improvement of ongoing programs as authorized under prior legislation. The second was program development. The act called for programs for population groups not being served and programs to meet emerging employment needs in new occupational fields.

The Vocational Education Act of 1963 is comprehensive; it excludes no group or occupation except those occupations generally considered professional or requiring a baccalaureate degree. The act provides for Federal, State, and local recognition of the needs and authority to provide occupational training for the labor force at all levels, for all fields, for workers of all ages, for persons in rural and urban areas, for youth and adults with special needs, and for the unemployed and underemployed.

The 1963 act provides specific responsibilities and services that were not included in previous acts. These responsibilities, as perceived and accepted by the division staff for operating purposes, increased the scope and variety of the division's activity. In particular it was evident that new services, and other forms of assistance from the division, would be needed to maintain a high degree of functional relationships with the States.

FEDERAL ADMINISTRATIVE PRACTICES

In a comprehensive review, a significant factor which must be studied is the administrative organization of the agency or agencies responsible for vocational education. The organization of the administrative unit will determine, to some extent, how efficiently and effectively the responsibilities are being carried out, and how well the purpose and objectives are being achieved.

The functional responsibility for administration of federally funded vocational education is both multilevel and multiagency. At the Federal level there are 10 cabinet departments and more than 15 agencies which support or conduct education, training, and related programs, with an estimated expenditure of $11 billion in 1968.[3]

In the total context of the many Federal agencies involved in programs related to vocational education, it is apparent that overlaps and duplication will develop. Therefore, it is essential that effective administrative procedures be established for interagency cooperation at all levels.

Establishing an effective administrative organizational structure necessitates the identification of (1) functions and responsibilities at all administrative levels, (2) an adequate and competent staff to direct and offer leadership to maintain and develop instructional programs, and (3) specific channels for delegation of authority for decisionmaking.

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[3] Bureau of the Budget. "Federal Education, Training, and Related Programs," Special Analysis G, January 1967.

The net effect of recent legislation has been to redefine the role of the U.S. Office of Education as that of a planning and developmental agency in contrast to a regulating one. The response to this change in role by the States has not been wholehearted. The task of changing an administrative organization and structure is not an easy one. Such a change takes time, and the new organizations must go through a "shakedown" to evaluate its effectiveness.

A significant increase in the administrative staffs at the State and local levels has been made possible through the 1963 act. During 1965 there was a total of 1,474 State personnel assigned to administrative and supervisory positions; this number increased to 1,771 during 1966, representing an increase of approximately 20 percent.[4] At the local level the number of personnel assigned to administrative positions increased from 4,108 during 1965 to 5,136 during 1966, or an increase of about 25 percent.[5] The number of administrative personnel employed in the Division of Vocational and Technical Education has not increased since 1961.[6]

The personnel responsible for the administration of vocational education at the Federal level has not increased in proportion to the growth and complexity of the program. The number of professional staff assigned to the Division of Vocational and Technical Education has not increased since 1961; however, as shown in the organizational charts a number of administrative responsibilities have been reassigned from the division to other segments of the Office of Education, and the professional staffs are now recorded in those offices.

In the following section, a description of the operational administrative functions of the branches under the Division of Vocational and Technical Education, as they currently operate, is presented.

Program Services Branch. This branch, which consists of two sections, assists regional, State, and local agencies and institutions in the areas of curriculum and instructional materials, teacher education, vocational guidance, basic education, occupational information, and work-study programs.

The *Curriculum and Instructional Materials Section* surveys the curriculum and instructional material needs for programs under the Manpower Development and Training Act of 1962, as amended, and the Vocational Education Act of 1963. The surveys seek to find national trends and needs in occupational areas. The section develops curriculum and related instructional materials to implement and improve occupational training programs, utilizing the competencies of institutions of higher education, State departments of education, business, industry, labor, and related organizations and associations. It works with regional and State staffs in developing and utilizing curriculum materials and instructional media.

The *Ancillary Service Section* provides support to regions and State department of education and institutions of higher education in developing and implementing inservice and preservice training programs for instructors and for administrative, occupational, supervisory, and management training programs. It provides occupational information and assistance to States in developing guidance functions relating to all aspects of prevocational and vocational training, and coordinates and provides substantive help in the development and operation of work-study programs.

State Vocational Services Branch. This branch, which consists of two sections, reviews and administers the functions assigned the division for State plans, agreements, and projected programs of activities. The branch maintains the national leadership and liaison function necessary to provide expert assistance to the regions and States in all occupational areas.

The *State Plans and Activities Section* works with the regional staffs and State boards for vocational education in the development of State plans and agreements required to implement programs of vocational and technical education that will assure high quality programs meeting the needs of the States' population. The section reviews and recommends to the Commissioner of Education the necessary changes required for conformity with rules and regulations, and advises the regional and State staffs on policy procedures and recommendations to approving authorities. It assists States in the development of projected programs of activities meeting the States' need for occupational training for all people of all ages in all communities.

The *Occupations Section* maintains a national leadership role in the occupational areas by keeping abreast of existing and emerging changes in the world of work through consultation with national leaders and attendance at national conferences of business, industry, agriculture, and labor. It provides expert advice to State and regional staffs of vocational and technical education in the planning, development, and implementation of training programs in their occupational specialty.

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[4] Refer to table 59.

[5] Ibid.

[6] As reported by the Administrative Services Office, Division of Vocational and Technical Education.

Program Planning and Development Branch. This branch, which consists of two sections, serves as liaison between the Division of Comprehensive and Vocational Education Research, in the Bureau of Research, and other divisions throughout the Office of Education in providing research, experimental, and related information to the regional and State staffs in the planning of immediate and long-range programs of occupational training. The branch coordinates and develops information and plans for facilities, design, and equipment for residential and vocational schools, and provides leadership and coordinates the division, regional, and State preservice and inservice leadership development training programs.

The *Program Planning and Development Section* surveys the existing and emerging trends in occupational training at the secondary, post-secondary, and adult levels. It utilizes the survey information, research, experimentation, and demonstration project findings provided by the Division of Comprehensive and Vocational Education Research to provide substantive information and help to regional and State staffs in planning total programs of vocational and technical education and in meeting the changing educational and occupational training needs at all levels of training. The section provides liaison between research groups, agencies, and organizations in identifying and interpreting emerging needs and findings and makes all such information available to headquarters, regional, and State staffs. It also provides leadership training activities for present and new staff members to assure a continuous program of preservice and inservice staff development training at all levels, and provides information and assistance in program financial needs, budget information, and personnel management to division, regional, and State staffs.

The *Facilities Planning and Developing Section* conducts surveys and cooperates in studies to determine the national requirements for physical facilities and equipment and maintains current information on the national inventory of such facilities presently in use, under construction, or being planned; maintains liaison with consulting architects, school planning groups, manufacturers of building construction materials and equipment; utilizes and interprets all information in providing consultative and advisory services to the regional and State staffs on planning, designing, engineering, constructing, and equipping functional vocational, technical and residential schools authorized under the Vocational Education Act of 1963, and the Appalachian Redevelopment Act of 1965.

During the 3 fiscal years 1964, 1965, and 1966, the headquarters division staff provided consultative service by visits to the States. (The frequency of the staff visits is shown in table 58.) These professional services are directly related and responsive to State program needs. In fiscal year 1967, budgetary limitations had an immediate effect on the number of consultative visits that the professional staff of the division could make due to travel allowance restrictions. However, when possible, program specialists from regional offices were requested to provide consultative services to the States.

TABLE 58.—*A breakdown of services rendered by the staff of the Division of Vocational and Technical Education* [1]

Services by purposes	Consultative visits by fiscal year and total			
	1964	1965	1966	Total
1. Program development	48	71	118	237
2. Administrative assistance to States	100	104	85	289
3. Program evaluation and Research	25	38	75	138
4. Curriculum development	28	45	55	128
5. Conferences	134	116	185	435
Total	335	374	518	1227

[1] Does not include the activities of the research staff, which was transferred from the Division of Vocational and Technical Education on July 1, 1965, the services provided by the field staff of the division located in the 9 regional offices, the staff assigned specifically to the manpower development and training program, nor staff participation in leadership development conferences and seminars held in Washington, D.C.

In addition to the consultative visits shown in table 58, the division staff met on numerous occasions with educators, agency representatives, corporation and company representatives, and foreign visitors in the headquarters office in Washington, D.C.

Numerous reorganizations at the Federal level have posed administrative problems. Increasing levels of authority have correspondingly increased the difficulty of responding to the needs of the States, and the inability to respond directly and rapidly has increased concerns at the State and local levels.

The establishment of the Bureau of Adult, Vocational, and Library Programs placed the direct responsibility for vocational education programs with the Associate Commissioner, who is also responsible for programs other than vocational education. The planning for vocational education is carried out within the Division of Vocational and Technical Education. There does not appear to be, at the present time, a clear-cut policy of administrative authority and responsibility as well as coordination between the bureau, the division, and regional administrative offices. This may be partially a result of inadequate communication processes.

Changes in Administrative Approach

New lines of authority have evolved regarding the administration of vocational education as authorized by the Vocational Education Act of 1963 and other acts or sections of acts for which the Office of Education is responsible. Through delegation of authority, the Commissioner of Education has placed responsibility for the administration of vocational education with the Bureau of Adult, Vocational, and Library Programs. The Division of Vocational and Technical Education is the administrative arm of the bureau, which has major responsibility for operational functions of administration of vocational education. The Division of Manpower Development and Training, within the bureau, also functions in a similar area. The overlapping functions are coordinated within the division and the bureau.

In evaluating administrative change, consideration must be given to the problems concerned with changing an existing administrative organization for new purposes. The problems are quite different from those of creating an entirely new administrative unit for new purposes. Time allowance and other considerations must be made for the reorientation of personnel as well as purpose.

In the following section a brief overview is made of the changing role of administration in relation to the reorientation of vocational education and to the changes which are reflected throughout the Office of Education.

The Smith-Hughes Act and subsequent legislation on vocational education were primarily directed at specific programs. As a result of the direct program specification of the supporting acts and the historic prerogative of the States to operate as autonomous agencies, the administrative function of the Office of Education became one, primarily, of consultation and regulation. The Office was looked to by the States for interpretation of legislation, fiscal control, and as a source of approval for State proposals, data collection, and reporting.

The Vocational Education Act of 1963 was a departure from the specified program pattern of previous legislation. A major focus was placed upon the needs of individuals as well as the economy. The act was an attempt to bring the attributes of vocational education to bear upon these needs. The Vocational Education Act of 1963 is representative of the Federal Government's change in attitude about its role in education: that there are problems of national concern and magnitude which require the combined efforts and resources of the States and Federal Government to solve. Problems of unemployment, underemployment, poverty, and welfare are but a few examples. There is also the growing recognition that education represents a wise economic investment in developing human resources. This shift in official philosophy and practice, together with the specific legislative mandates, has placed new and more complex demands upon the staff of the Office of Education.

Decentralization at the Federal Level

A major step toward decentralization of the services of the Office of Education is now in progress. Nine regional offices have been established; the functions of the Division of Vocational and Technical Education will be represented in each regional office, and staffing is proceeding to accomplish this purpose.

The regional staff servicing the Division of Vocational and Technical Education will be responsible for providing information, leadership, and direction to officials in government and education at the State and local levels. It will administer the operation of all program functions assigned and delegated to the regions for vocational and technical education under the Vocational Education Act of 1963, the Appalachian Redevelopment Act of 1965, and other acts as appropriate. The regional office staff will work with all organizations and institutions at the regional, State, and local levels concerned with occupational training and will maintain a close functional liaison between the regional office and the Washington office.

Regional office personnel will provide detailed information pertaining to all substantive programs, trends, and problems within their region. The bureau headquarters staff will cooperate with their regional counterparts in resolving questions related to administering the programs. Responsibility for operational administration has been delegated to the regions for State grant programs. This initiates the beginning of change with the operating role for both headquarters and the regions.

The line of administrative responsibility between headquarters and the regions is through the associate commissioner for field services, the regional assistant commissioners, and the directors of Adult, Vocational, and Library Programs (AVLP). The program officers report to and are on the staff of the director of AVLP. It is the director's responsibility to manage, direct, and utilize his staff in carrying out delegated responsibilities (see fig. 11).

The regional office will utilize policies and guidelines developed in headquarters for carrying out delegated responsibilities. Administrative responsibilities are to be issued to the regions under procedures approved for the newly established uniform communication system. Two-way communication must exist between headquarters and the regional staff and be used frequently to assure successful performance of all responsibilities of the Office of Education.

The field staff is being augmented with additional positions to carry out these new responsibilities. The delegation of authority not only to carry out directives and policy originating at headquarters, but to operate freely and imaginatively within broad areas of policy is inherent in the decentralization plan. By pinpointing specific responsibility, decentralization can provide the opportunity for cooperative program development through resourceful leadership.

Under the decentralization plan, the regional office staff has the delegated responsibility for reviewing and approving State plans and projected programs of activities for State grant programs and project approval in certain others. It will also provide some professional consultative assistance to States in each program area.

The bureau staff located in Washington will support the regional staff in carrying out its role. Priority areas for national emphasis will be identified at the headquarters level. Dissemination of research findings, reports, new techniques and instructional methods will be carried out by the headquarters staff. Program specialists in the various instructional areas will be developing long-range plans and projections, establishing program goals, and assisting the regions in upgrading program quality. The headquarters staff will also be responsible for development and revision of overall programs policies, objectives, regulations, procedures, and guidelines.

Rules and Regulations

An important aspect of administrative management is the determination of decisionmaking authority at various levels. Historically, Federal legislation has clearly recognized the legal autonomy of the States. Federal involvement in education as an attempt to resolve problems of national concern has increased greatly in the last decade.

The Federal level is responsible for administering and delegating authority in relation to federally funded programs. The obligation to define the rules and regulations that shall govern the utilization of Federal allocations to the States is mandated in the legislative acts. An agreement with each State's educational agency in the form of a State plan must be consummated before funds can be expended.

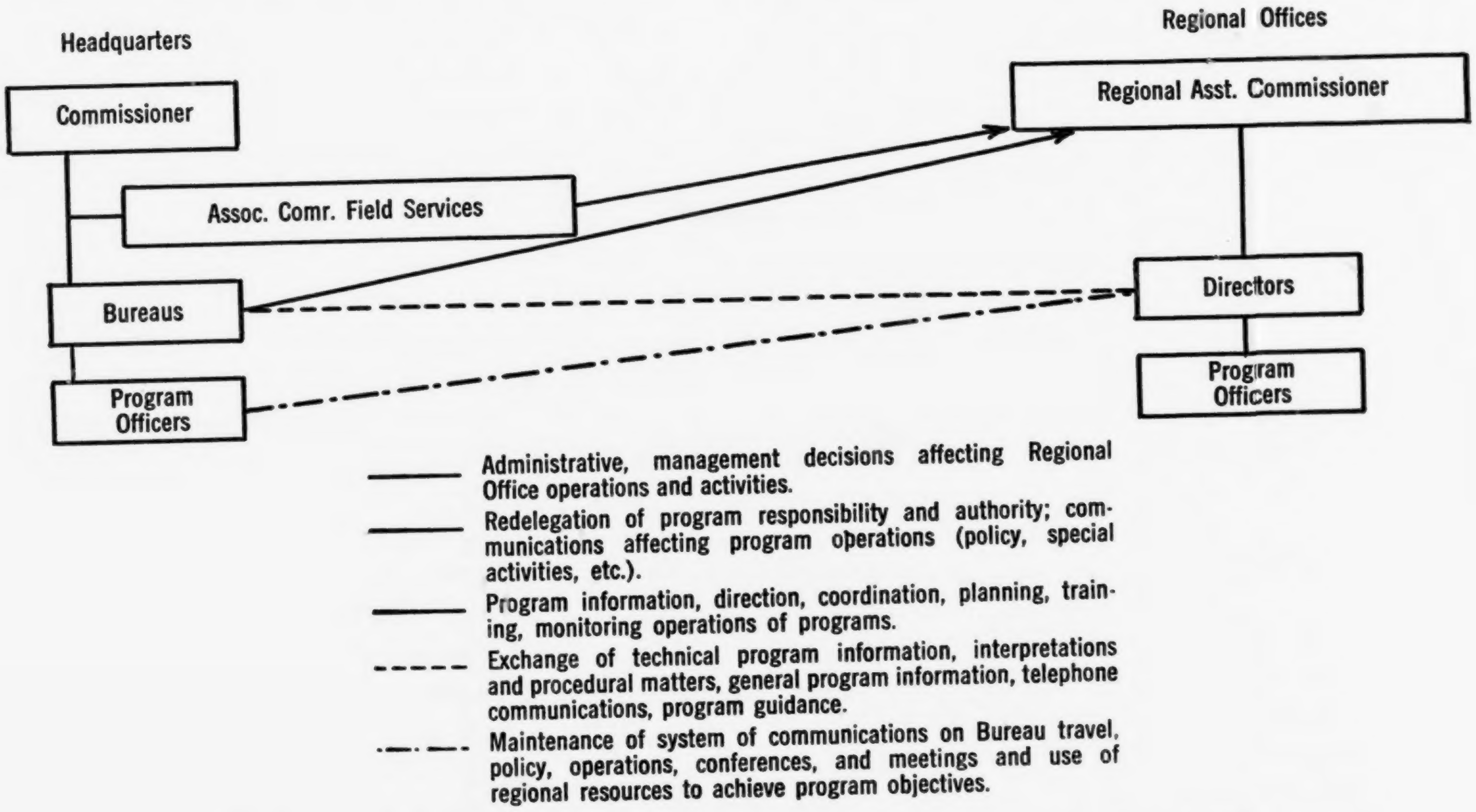
Headquarters
Regional Offices
Commissioner
Regional Asst. Commissioner
Assoc. Comr. Field Services
Bureaus
Directors
Program Officers
Program Officers
Administrative, management decisions affecting Regional Office operations and activities.
Redelegation of program responsibility and authority; communications affecting program operations (policy, special activities, etc.).
Program information, direction, coordination, planning, training, monitoring operations of programs.
Exchange of technical program information, interpretations and procedural matters, general program information, telephone communications, program guidance.
Maintenance of system of communications on Bureau travel, policy, operations, conferences, and meetings and use of regional resources to achieve program objectives.

FIGURE 11.—Flow lines of operational communications on management functions, USOE.

It is the responsibility of the States to conform to the State plan and to comply with the rules and regulations under which Federal funds are allocated to them.

Bulletin No. 1, entitled "Administration of Vocational Education, Rules and Regulations, 1966," delineates the administrative policy. This publication brings up to date the interpretations and the regulations of the Office of Education as they apply to vocational education supported under the provisions of the Federal acts. Included in this bulletin are the Federal laws and regulations relating to the administration of vocational education program in the States and outlying areas, including the District of Columbia.

STATE AND LOCAL ADMINISTRATION

The Federal Government deals with one central State agency having responsibility for vocational education within the State. The State in turn follows its established educational patterns in dealing with the local school districts. The arrangement honors the principle that education is a function of the State and a responsibility of the local school district.

Patterns of State Organization

Each State is responsible for administration of its vocational education program. The State may designate the State board of education or a separate State board for vocational education to serve as the responsible administrative agency for vocational education. The State board must include as members persons familiar with the vocational education needs of management and labor in the State, and a person or persons representative of junior colleges, technical institutes, or technical education. In the case where the State board does not meet this requirement, the State plan must designate a State advisory council, which meets these requirements, to consult with the State board for carrying out the State plan.

Forty-nine of the States and Territories have advisory councils. In two States, the State board of education has the required representation and, therefore, does not have an advisory council. Three States and Territories have independent boards for vocational education with the required representation, and five States with independent boards also have consulting advisory councils. The councils vary in numbers from three to 49. The average council has a membership of about 10 persons. Operational administration for vocational education is most commonly carried on by one of the divisions within the State department of education. The director of vocational education for the State is usually administratively responsible to the State superintendent directly or indirectly through an assistant State superintendent.

Prior to the 1963 act, State organizational structures for vocational education were often patterned after the organizational structure of the Federal office. Organization was developed along program lines in relationship to those programs which were reimbursable. In those States where size permitted, each of the program services was headed by a State supervisor with special qualifications in the field.

State boards for vocational education insure that the State plan is carried out. In addition, they often serve within the State in much the same way as the Federal office serves the States. That is, they perform consultative services to the local administrative units in helping them to develop, initiate, and carry out vocational programs.

For the greater part, the State organizational structures for administration are still strongly oriented to the program services divisions as developed prior to the Vocational Education Act of 1963. However, many of the States are in the process of administrative reorganization. At this point there is not enough information available to determine the extent to which reorganization plans have been implemented in the States.

Nevertheless, the States appear to be sensitive to the need for administrative change. Insight into the point of view of 21 State directors of vocational education, who met with the staff of the Advisory Council on Vocational Education on August 20–21, 1967, is shown by the following consensus:

> The most significant development in vocational education in this century has happened in the last 3 years. Every State has developed a central planning staff that departs from the specialized service or program areas. These staffs have operated with varying success and at various levels of efficiency. The important thing, however, is that they are there, and statewide planning is taking place.

Patterns of Local Organization

The organization and administration of vocational education vary greatly at the local school level. In most States, administration at the operating school level is conducted through the local school boards. The major exceptions would be State-operated vocational schools serving an area of the State covering several local school districts, and correctional schools. Many of the States are also organized with county administration resting between the State and local levels. The county administration in most cases will serve several local districts.

The type of organization and administration at the local level is dependent to a large extent upon the size of the district. In the larger cities and districts where the resources are greater, it is common to find vocational education administered through an administrative officer holding some appropriate rank. The vocational program is generally organized as a division or department within the school. At the other extreme, in those smaller districts where there are only a few vocational teachers, the administration is likely to be carried out entirely by a teacher or by persons who have other administrative responsibilities as well.

Tables 59 through 63 reflect sizes and expenditures for State and local administrative and supervisory staffs for fiscal years 1965 and 1966.

State Plans

In January 1965, the Division of Vocational and Technical Education reported to the Advisory Committee on Vocational Education that 43 States had submitted State plans under the Vocational Education Act of 1963 and that 27 plans had been approved conditionally by the Commissioner of Education. Since that time, the State plans of 27 additional States and Territories have been submitted and received approval. The review of a State plan and projected program activities, which are submitted by the States, involves an analysis by program specialists before submission to the Commissioner of Education. State plans are also reviewed by legal counsel. These plans are checked for conformity with the acts in relation to 171 items listed in the State plan guide.

TABLE 59.—*Number of State personnel and local administrators in vocational education (unduplicated count), fiscal years 1965 and 1966*[1]

	Fiscal year 1965	Fiscal year 1966
Grand total, State personnel and local administrators.	5, 582	6, 907
State personnel total	1, 474	1, 771
Local administrators total	4, 108	5, 136
Total, State personnel	1, 474	1, 771
Directors or supervisors	336	378
Assistant directors or assistant supervisors	370	420
Teacher trainers	52	160
Curriculum specialists	37	79
Area or regional supervisors	303	257
Research specialists	19	59
Youth group specialists	38	32
Itinerant teachers	141	182
Guidance directors	36	46
Work-study	31	33
Other	111	125
Total, local administrators	4, 108	5, 136
Curriculum specialists	162	123
Supervisors or directors	2, 729	3, 080
Work-study	72	607
Guidance counselors	874	1, 009
Other	271	317

[1] Source: State reports, DVTE.

TABLE 60.—*Total State personnel and local administrators in vocational education by occupational area, fiscal years 1965 and 1966*[1]

	Fiscal year 1965	Fiscal year 1966
Grand total	5, 974	7, 409
Persons serving all classifications	1, 729	2, 154
Agriculture	376	407
Distributive education	293	354
Health occupations	368	334
Home economics	640	744
Office occupations	248	869
Technical education	549	616
Trades and industry	1, 771	1, 931

[1] Source: State reports, DVTE.

TABLE 61.—*Occupational breakdown of administrative and supervisory personnel (part-time and full-time) at the State and local levels, fiscal year 1966*[1]

	Full Total	Full time, total	Full time, State	Full time, local	Part time, total	Part time, State	Part time, local
Total State and local	5, 255	2, 715	1, 216	1, 499	2, 540	319	2, 257
All areas[2]	4, 245	2, 543	1, 093	1, 450	1, 702	249	1, 453
Agriculture	407	316	286	30	91	28	63
	376	306	274	32	70	24	46
Distributive education	354	236	124	112	118	43	75
	293	193	107	86	100	32	68
Health occupations	334	191	48	143	143	27	116
	368	216	47	169	152	26	126
Home economics	744	422	274	148	322	27	295
	640	372	251	121	268	20	248
Office occupations	869	200	87	113	669	21	684
	248	111	42	69	137	25	112
Technical education	616	220	51	169	396	49	347
	549	224	41	183	325	34	291
Trades and industry	1, 931	1, 130	346	784	801	124	677
	1, 771	1, 121	331	790	650	88	562

[1] This total does not include "persons serving all classifications."

[2] Source: State reports, DVTE.

TABLE 62.—*Total expenditures, Federal and State and local, for vocational education administration (excludes construction and work-study), fiscal years 1965 and 1966*[1]

[Figures shown in thousands of dollars]

	Federal expenditures for supervision				State and local expenditures for supervision			
	1965	Percent[2]	1966	Percent	1965	Percent	1966	Percent
Total	1, 998	0. 4	6, 242	1. 0	6, 321	1. 1	9, 627	1. 6
Agriculture	362	. 4	592	. 7	478	. 6	475	. 5
Distributive education	142	. 7	435	1. 6	360	1. 7	484	1. 7
Health occupations	124	. 6	182	. 8	162	. 8	261	1. 2
Home economics	276	. 3	544	. 5	655	. 7	605	. 5
Office occupations	72	. 1	386	. 4	352	. 7	563	. 6
Technical education	323	. 5	411	. 7	741	1. 2	740	1. 2
Trades and industry	685	. 5	1, 946	2. 4	3, 499	2. 3	4, 295	2. 3
Guidance	5	. 3	11	. 2	6	. 4	61	1. 3
Fishery occupations	1	. 3	4	. 5	2	. 5	5	7

[1] Source: State reports, DVTE.

[2] Percentage of expenditure by category as compared with total expenditure for vocational education in the category for the indicated year.

TABLE 63.—*Total expenditures, Federal and State and local, for vocational education supervision (excludes construction and work-study), fiscal years 1965 and 1966*[1]

[Figures shown in thousands of dollars]

	Federal expenditures for supervision				State and local exyenditures for supervision			
	1965	Percent[2]	1966	Percent	1965	Percent	1966	Percent
Total	8, 103	1. 6	11, 215	1. 8	19, 066	3. 9	22, 216	3. 6
Agriculture	1, 581	1. 8	1, 515	1. 7	1, 855	2. 1	1, 860	2. 1
Distributive education	696	3. 2	831	3. 0	1, 212	5. 6	1, 268	4. 5
Health occupations	511	2. 6	442	2. 0	1, 417	7. 2	1, 347	6. 2
Home economics	1, 419	1. 4	1, 532	1. 4	1, 634	1. 7	1, 877	1. 7
Office occupations	301	. 6	1, 017	1. 1	2, 117	3. 9	3, 070	3. 4
Technical education	965	1. 5	875	1. 5	2, 929	4. 7	2, 893	4. 9
Trades and industry	2, 544	1. 8	3, 627	2. 0	6, 955	4. 8	7, 029	3. 8
Guidance	16	1. 1	103	2. 2	29	2. 0	142	3. 1
Fishery occupations	4	1. 1	4	. 6	12	3. 2	11	1. 6

[1] Source: State reports, DVTE.

[2] Percentage of expenditure by category as compared with total expenditure for vocational education in the category for the indicated year.

REPORTING SERVICE

Effective administration can only result when information essential to decisionmaking is available. Information must be available to measure progress in achieving established objectives, and for continual program improvement. Prior to the Vocational Education Act of 1963, data collected for vocational education were extremely limited. The reporting system established through the earlier vocational education acts was designed primarily to serve the accounting function. It provided evidence that the States were meeting their requirements under the acts, and supported their qualifications for Federal funds. The information provided little benefit in evaluation, nor did it provide much help for program improvement.

Some States have established an office devoted to planning and evaluation, which includes statistical staff who are qualified to handle the data. Many States are planning or actually operating with automatic data processing equipment.

The 1962 panel of consultants was confronted with the problem of obtaining data about vocational education. In discussing the public image of vocational education it was stated that, "Lack of data and tangible evidence, it must be admitted, make it difficult for laymen or professionals to fully evaluate the national program of vocational education."[7] The panel recommended that:

> The States and the Federal Government develop an adequate and standardized system of reporting.
>
> *a.* Information should be readily available to indicate enrollments by age, sex, year in school, year in training, occupation for which training is given, completions, placement by occupation, type of school, size of school, size of community, etc.
>
> *b.* Financial reports should make it possible to determine unit costs, source of funds, and classification of expenditures.
>
> *c.* Similar information should be available concerning teachers, supervision, instructional materials, and any research or experimental projects.

Some of the data called for in this recommendation are now being collected. However, there has been a general lack of quality control on the data, thus, limiting its practical value.

SUMMARY

For many years vocational education has enjoyed successful administration through the Federal-State-local relationship. The relationship and administrative practice which developed was consistent with the intent and spirit of the earlier Federal legislation.

The Vocational Education Act of 1963 called for redirection of the scope and practices of vocational education. Implementation of the newly established purposes required rather extensive changes in administration and program practices at all levels.

In response to the need for new directions set forth in the act, the Division of Vocational and Technical Education was reorganized. The division structure was changed from the specific occupation program orientation to one oriented to comprehensive programs and supporting services. These changes were designed to recognize the new responsibilities and to expand the services and leadership role growing out of the new legislation.

The changes in the administrative structure for vocational education were also due, in part, to a series of organizational changes in the U.S. Office of Education. Through these reorganizations, the Division of Vocational and Technical Education was placed within the Bureau of Adult, Vocational, and Library Programs. The branch responsible for vocational education research was placed within the Bureau of Research.

Another major change in the administrative structure of the U.S. Office of Education was the initiation of a decentralization plan through the establishment of regional offices. Regional offices are intended to help the Federal agency to be more responsive to regional, State, and local needs.

The effective results of reorganization at the Federal level have been hampered by a lack of adequate staff to fulfill the new responsibilities in leadership and service, as well as the problems of adjustment accompanying any reorganization.

At the State level of administration, the varying and special problems of the different States have prevented a uniform response to the need for organizational change. A few States have reorganized, and many more are in the process of change; however, the specific occupational program orientation largely prevails. The States appear to be sensitive to the need for administrative change, and the fact that every State has established a central planning staff suggests that change is in progress.

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[7] Education for a Changing World of Work," op. cit., p. 207.

Little information is available concerning response to administrative changes at the local level. The success of the local communities in meeting their administrative responsibilities can only be inferred from the data on program growth and development. However, the Vocational Education Act of 1963 has made it possible for State and local agencies to significantly augment their administrative staffs.

Chapter 5

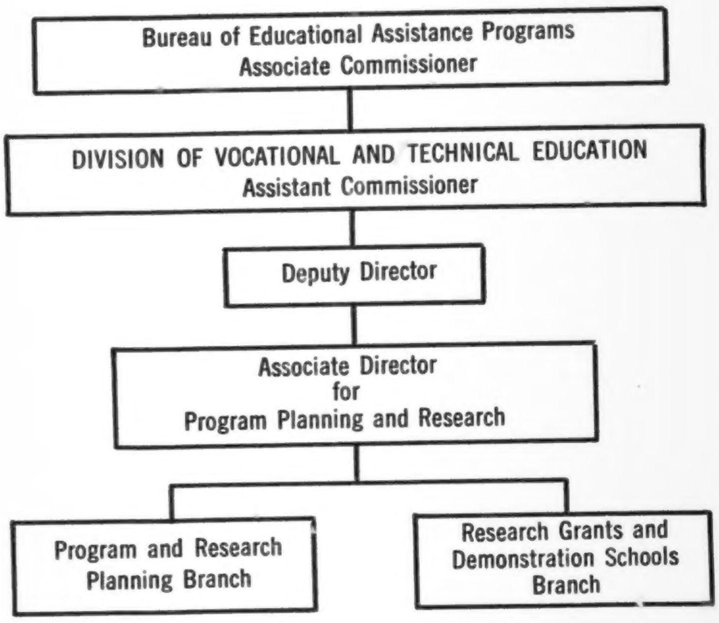
Research in Vocational Education

Congress made provision for funding research in the Vocational Education Act of 1963. Section 4(c) of the act reads as follows:

> Ten per centum of the sums appropriated pursuant to section 2 for each fiscal year shall be used by the Commissioner to make grants to colleges and universities, and other public or nonprofit private agencies and institutions, to State boards, to local educational agencies, to pay part of the cost of research and training programs and of experimental, developmental, or pilot programs developed by such institutions, boards, or agencies, and designed to meet the special vocational needs of youths, particularly youths in economically depressed communities who have academic, socioeconomic, or other handicaps that prevent them from succeeding in the regular vocational programs.[1]

ORGANIZATION FOR RESEARCH IN VOCATIONAL EDUCATION

Immediately following the passage of the Vocational Education Act of 1963, the U.S. Office of Education initiated a movement to define the rules and regulations to be applied to research funds available under section 4(c) of the act. The Division of Vocational and Technical Education was reorganized (part of the general reorganization in the Office of Education), and the arrangement for research was approved by Commissioner Francis Keppel on July 20, 1964, as follows:


Bureau of Educational Assistance Programs
Associate Commissioner
DIVISION OF VOCATIONAL AND TECHNICAL EDUCATION
Assistant Commissioner
Deputy Director
Associate Director
for
Program Planning and Research
Program and Research
Planning Branch
Research Grants and
Demonstration Schools
Branch

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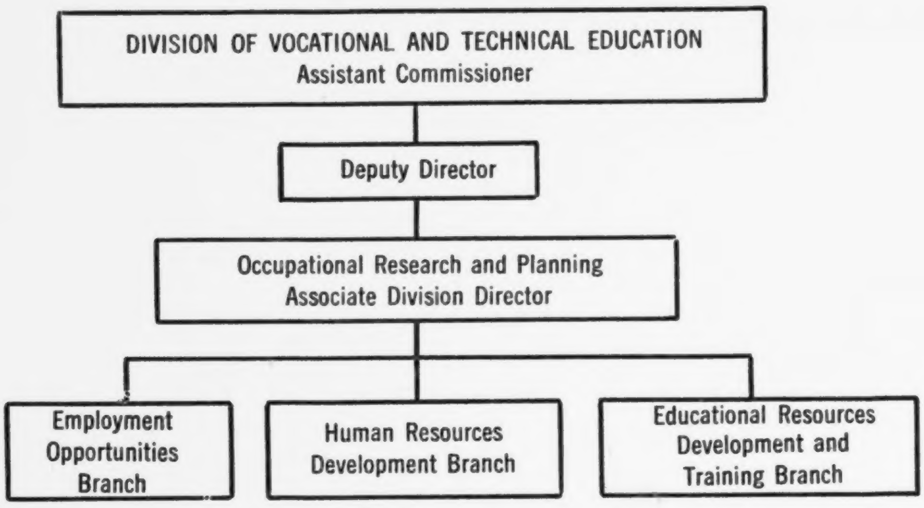
[1] Public Law 88–210, 88th Cong., Dec. 18, 1963.

The plans called for the associate director for Program Planning and Research, as one of three associate directors in the new organization, to report to the deputy director of the division. By December the organization for research in the division had changed again. An organization chart, dated December 2, 1964, shows the arrangement for research as follows:


DIVISION OF VOCATIONAL AND TECHNICAL EDUCATION
Assistant Commissioner
Deputy Director
Occupational Research and Planning
Associate Division Director
Employment Opportunities Branch
Human Resources Development Branch
Educational Resources Development and Training Branch

During the period of organizational adjustment the research subdivision began operations. Forms and procedures for filing applications for research grants had been widely distributed. In September 1964, an amount of $11.85 million was allocated for research in vocational education.

Relocation of Research in Vocational Education

Reorganization in the U.S. Office of Education, in response to the recommendations of the White House Task Force on Education, placed vocational education research in a division of the newly created Bureau of Research. The rationale for consolidating research under one bureau was indicated as follows:

> Extramural research programs were at a level of about $3 million in 1960. At present, they are approaching $100 million. Significant new research legislation has been enacted, some of it overlapping previous statutes (the Vocational Education Act and Cooperative Research Act, for example). It is now desirable for the various research programs to be concentrated in one bureau—free of extraneous functions—where maximum in-house capability can be built for developing the research program, stimulating research activity and evaluating proposals. Moreover, a single research bureau should be better able to plan and program the funds available in relation to Office-wide priorities. Care must be taken to assure that a major portion of the research undertaken will support the program needs of the other bureaus. At the same time, provision should be made for more general research which would not be directly related to such program needs.[2]

Included among the recommendations of the task force was the establishment of a Division of Adult and Vocational Research. The functions of the division were described as follows:

> This division would be responsible for all research, curriculum development and demonstration projects relating to adult and vocational education. Included among the division's responsibilities would be the support of research, experimental, development, or pilot programs designed to meet the special vocational education needs of youth in economically depressed communities who have handicaps preventing them from succeeding in regular vocational education programs.[3]

Subsequently, in the organization of the division, the three branches were identified as (1) Employment Opportunities Branch, (2) Human Resources Branch, and (3) Educational Resources and Development Branch.

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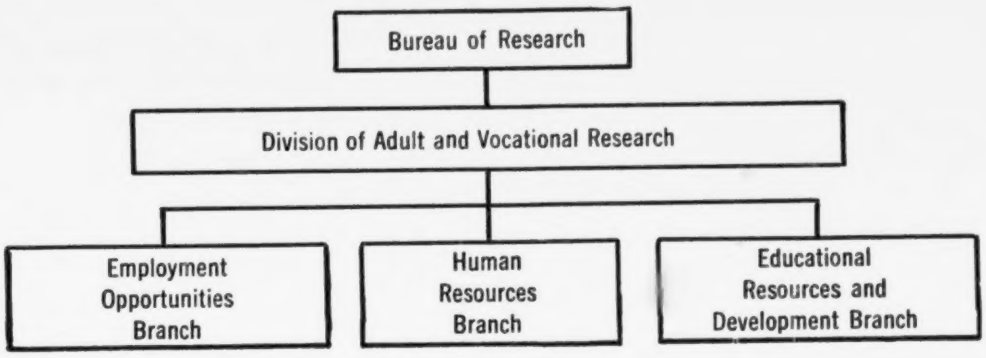
[2] Recommendations of the White House Task Force on Education, June 14, 1965, p. 34.

[3] Ibid.

An organization chart dated March 31, 1967, shows the following relationships:


Bureau of Research
Division of Adult and Vocational Research
Employment Opportunities Branch
Human Resources Branch
Educational Resources and Development Branch

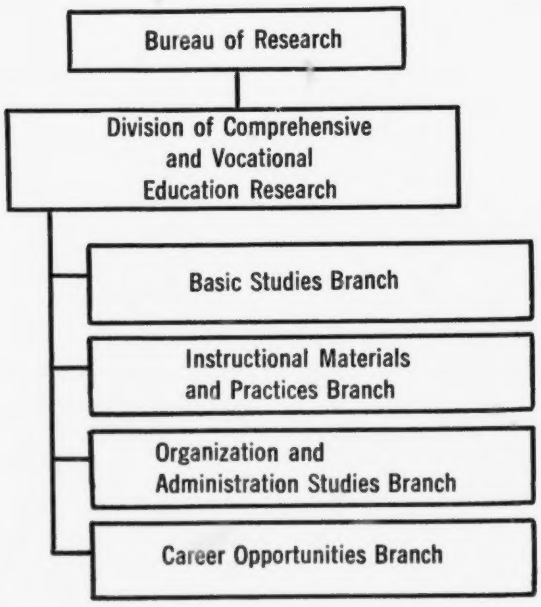
The purposes of the division's research responsibility was subsequently described as follows: [4]

The *Employment Opportunities Branch* concentrates on those division programs which relate to economic and occupational information needed to plan, administer, and evaluate programs of adult and vocational education, to facilitate students' career choices, and to ease the transition from school to work.

The *Human Resources Branch* focuses on the person preparing for or involved in the world of work. The relationship between a student's background, his family, his abilities and aptitudes, his motivations and aspirations, and his performance in school and on the job are the concern of this branch.

The *Educational Resources and Development Branch* concerns itself with the improvement of existing vocational programs and the development of new programs and the personnel to run them. This branch stresses research, experimental, developmental, and pilot programs and evaluates their success in the fields of curriculum development, instructional media and methods, organization, administration, teacher education, and facilities.

Further reorganization in May 1967 changed the titles of the division and the branches, and added one new branch. The Office of Education organization chart of June 30, 1967, indicates the following relationships.


Bureau of Research
Division of Comprehensive and Vocational Education Research
Basic Studies Branch
Instructional Materials and Practices Branch
Organization and Administration Studies Branch
Career Opportunities Branch

Project Funding

All of the research funds available to vocational education are allocated to the Bureau of Research, Division of Comprehensive and Vocational Education Research. The division and the branches also have responsibilities for research projects not included in the area of vocational education.

Many more projects are submitted for funding than are accepted; actually about two out of five projects are funded. The rejected projects, in some cases, are appropriate as research in vocational education, but the money available does not make it possible to accept all worthy projects. Very few new projects were funded for fiscal year 1967 because of reduced allocations for research. Roughly 40 percent of the money for fiscal year 1967 was required to maintain the research coordinating units and the research centers in operation. In addition, some projects which had been approved previously on a long-term basis were continued, but under reduced allocations. So the matter of available funds has been one of the key considerations.

During the first year of operation of the research program, the decision to fund was made on the basis of recommendations of a panel of reviewers who met as a group periodically to consider proposals that had been submitted, and to make recommendations for funding. On the basis of these recommendations the director of the research division allocated the funds.

When the research function was transferred to the Bureau of Research, the "panel" concept for reaching decisions to fund was dropped. In its place was substituted the "field reader" concept. Under this system, projects received from the Bureau of Research by the division were allocated to a branch director for further review. The branch director, using a list of approximately 800 field readers, selected five persons with appropriate backgrounds and experience to advise the branch director concerning the appropriateness of the proposed research. A representative of the Division of Vocational and Technical Education was appointed as liaison with the Division of Comprehensive and Vocational Education Research. This procedure made it possible for the Division of Vocational and Technical Education to have an influence on project review the equal of one of the field readers.

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[4] DAVR Staff Discussion Paper, dated December 1966.

In cases where the field readers were unanimous in their support of a project, and where funds were available, the project would receive approval and final funding. In other cases final decision was made by the branch director(s) and the division director. The project officer assigned to the project played a key role in the entire process.

STATISTICAL SUMMARY, FISCAL YEARS 1965 TO 1967

Research support was provided for two broad classifications—institutional programs and individual projects. Institutional support research programs provide funds for research coordinating units, teacher-administrator inservice training, and vocational education research centers. Individual support research programs provide funds for individual research projects in the following priority areas: (1) Program evaluation; (2) vocational education curriculum; (3) personal and social significance of work; (4) personnel recruitment and development; (5) program organization and administration; (6) adult and continuing education; and (7) occupational information and career choice.

In addition to being classified by priority areas, research projects are identified also by type—research, training, demonstration-pilot, research centers, or State research coordinating units. Table 64 shows the distribution of funds and the number of projects for each of the various types, for fiscal years 1965–67.

TABLE 64.—*Distribution of funds by type of project, fiscal years 1965-67*

Type of project	Projects		Funding	
	Number	Percent	Dollars	Percent
Research	166	37.0	$13,000,000	33.5
Training	102	22.8	3,690,000	9.5
Demonstration-pilot	112	25.0	14,810,000	38.0
Research centers	[1]4	1.0	2,250,000	5.8
Research coordinating units	[2]64	14.2	5,150,000	13.2
Totals	448	100.0	39,000,000	100.0

[1] Follow-on projects for continuation of centers.
[2] Follow-on projects for continuation of RCU's,

Table 64 shows that approximately 20 percent of the funds supported the work of research centers and research coordinating units, and that approximately 80 percent supported projects in the seven priority areas. In some respects table 64 is inconsistent and can be misinterpreted. For example, each research center is shown as one project (for a definite contract period), however, the centers actually sponsor a number of specific research projects not shown on this table. The same point applies to the research coordinating units. Table 64 shows 64 projects for RCU's, but the total number of RCU's is only 44. Twenty of the RCU's prepared new project proposals for a second period of funding during fiscal years 1965–67.

Although the number of priority areas has been indicated as seven, table 65 shows an additional category—miscellaneous—which was found to be necessary to account for projects that did not clearly fit the predetermined priority areas. The amount of funds reported represents project allocations and not final audited expenditures.

Table 65.—*Distribution of funds by priority area, fiscal years 1965–67*

Priority area	Projects		Funding	
	Number	Percent	Dollars	Percent
Program evaluation	23	5. 1	$2, 000, 000	5. 1
Vocational education curriculum	98	21. 9	12, 360, 000	31. 7
Personal and social significance of work	48	10. 7	4, 800, 000	12. 3
Personnel recruitment and development	105	23. 4	4, 300, 000	11. 0
Program organization and administration	96	21. 4	9, 400, 000	24. 1
Adult and continuing education	14	3. 2	890, 000	2. 4
Occupational information and career choice	41	9. 2	3, 250, 000	8. 3
Miscellaneous	23	5. 1	2, 000, 000	5. 1
Totals	448	100. 0	$39, 000, 000	100. 0

Table 66.—*Distribution of projects by type of institution, fiscal years 1965–67*

Type of institution	Projects	
	Number	Percent
College or university	299	66. 7
State department of education	65	14. 6
Local education agency	31	6. 9
Private, nonprofit organization	53	11. 8
Total	448	100. 0

Two-thirds of the total number of projects were allocated to institutions of higher education where competent research staffs were located, or where such staffs could be assembled.

The total amount of money shown in table 67 is smaller than the total allocation of $39 million because the amount in the table represents a combination of allocated and, for completed projects, finally audited amounts.

Table 67.—*Distribution of Federal support for projects, by State for fiscal years 1965–67*

State	Federal support	State	Federal support	State	Federal support
Alabama	$194, 407	Maine		Pennsylvania	$2, 554, 235
Alaska		Maryland	$456, 314	Rhode Island	335, 871
Arizona	263, 851	Massachusetts	1, 088, 469	South Carolina	93, 481
Arkansas	50, 875	Michigan	1, 766, 595	South Dakota	
California	4, 745, 475	Minnesota	1, 206, 726	Tennessee	385, 078
Colorado	774, 789	Mississippi	197, 690	Texas	795, 738
Connecticut	872, 854	Missouri	390, 429	Utah	176, 322
Delaware	82, 782	Montana	167, 596	Vermont	
District of Columbia	1, 072, 729	Nebraska	485, 611	Virginia	117, 950
Florida	1, 114, 695	Nevada	143, 495	Washington	683, 358
Georgia	364, 691	New Hampshire	75, 289	West Virginia	55, 090
Hawaii	46, 132	New Jersey	498, 163	Wisconsin	1, 476, 453
Idaho	195, 180	New Mexico	179, 777	Wyoming	82, 060
Illinois	1, 788, 194	New York	4, 261, 660	Guam	
Indiana	244, 187	North Carolina	1, 581, 819	Puerto Rico	
Iowa	754, 516	North Dakota	230, 318	Virgin Islands	
Kansas	300, 202	Ohio	3, 239, 561	Total	37, 540, 240
Kentucky	395, 286	Oklahoma	551, 879		
Louisiana	188, 889	Oregon	813, 479		

VOCATIONAL EDUCATION RESEARCH CENTERS[5]

The original concept for the establishment of the two centers for vocational and technical education resulted from nearly 2 years of development and discussion among vocational education advisory committees, leaders in the various vocational fields, representatives of the American Vocational Association, and representatives of the U.S. Office of Education.

Plans for the centers were drafted following passage of a resolution by the House of Delegates of the American Vocational Association at its annual meeting in Atlantic City on December 12, 1963:

> Therefore, *Be it resolved,* That the AVA approve in principle and support the establishment of a National Center for advanced study and research in vocational and practical arts education which would include strong advanced study and research programs in each vocational and practical arts education service under the direction of an overall National Center staff which would promote and strengthen overall administrative and supervisory leadership development of vocational education, coordinate research efforts, and develop methods and programs to meet needs not being met in present programs.[6]

In the spring of 1965, the U.S. Commissioner of Education approved the establishment of centers at the Ohio State University and at the North Carolina State University.

Provision was made, in the planning and operation of the centers, for serving the broad comprehensive needs of the total vocational and technical education program, and also the unique needs of specific and related vocational services. The objectives of the centers include (1) stimulating and strengthening State, regional, and national programs of applied research and development directed toward the solution of pressing problems in vocational and technical education; (2) encouraging development of research to improve vocational and technical education in institutions of higher education and other appropriate settings; (3) conducting research studies directed toward development of new knowledge, and new applications of existing knowledge, in vocational and technical education; and (4) upgrading vocational education leadership (State supervisors, teacher educators, research specialists, and others) through advanced study and inservice education programs.

The center concept provides means for catalyzing and energizing the essential resources needed to effect major improvement in vocational and technical education. In addition to its research contributions, the Ohio State center also operates a national information retrieval and dissemination system, which contributes to rapid and effective utilization of research results and tested innovations. Recognizing that current impediments, which tend to deny an effective and realistic program of vocational and technical education for all, transcend not only the interests and capabilities of individual vocational services but also those of vocational education itself, a carefully conceived procedure for establishing needed consortia has been integrated into the plans and activities of the center—a confederation of ideas, institutions, agencies, and disciplines.

The two centers are commissioned on a continuing basis to provide and maintain a self-renewal capacity for vocational and technical education. Their major thrusts are research, development, training, and dissemination. These centers provide efficient and effective mechanisms for generating inputs at the frontal edge of progress into the total vocational-technical education program, in consort with the administrative structure of vocational and technical education.

The centers are characterized as long-range programs designed to provide for full and complete development of crucial research problems—which are not likely to be attacked by individual researchers and which have regional or national relevance—from conceptualization to application to the point that the products of research may be introduced into emerging programs of vocational and technical education as development or demonstration programs. The centers are organized and staffed to converge a critical mass of professional resources on problems of maximum significance. The staffing patterns of the centers further provide a viable means of utilizing research potential from related disciplines, and for integrating the products of research from these fields into the mainstream of programs designed to prepare for occupational proficiency.

In addition to conducting programs of research and development on a long-range continuous basis, the centers are designed and organized to function as catalytic agents to engender research productivity throughout the Nation, and to serve as forums for the free exchange of ideas and concepts.

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[5] Introductory material adapted from reports of the Division of Comprehensive and Vocational Education Research.

[6] Minutes, American Vocational Association, House of Delegates, Atlantic City, N.J., Dec. 12, 1963.

Funding of the Centers

Activities conducted through the two centers are funded by allocations from section 4(c), Vocational Education Act of 1963.

Ohio State University Center:

Time period	*Funding*	*Budget year*
Mar. 1, 1965 to Oct. 15, 1966	$698,160	Fiscal year 1965
Oct. 10, 1966 to Oct. 15, 1967	1,100,000	Fiscal year 1967
Total	1,798,160	

North Carolina State University Center:

Time period	*Funding*	*Budget year*
June 1, 1965 to July 31, 1966	$356,355	Fiscal year 1965
Aug. 1, 1966 to Jan. 31, 1967	190,500	Fiscal year 1967
Feb. 1, 1967 to Jan. 31, 1968	675,000	Fiscal year 1967
Total	1,221,855	

The U.S. Commissioner of Education has approved a 5-year grant for the Ohio State University Center, ending on October 15, 1971, for approximately $10 million, subject to year-to-year funding and depending upon availability of 4(c) money. Similarly, the Commissioner has approved a 5-year grant for the North Carolina State University Center, ending on January 31, 1972, for approximately $5 million, and subject to the same conditions of availability of 4(c) funds and year-to-year budgeting.

The Ohio Center[7]

During the period March 1, 1965, to August 10, 1966, the center had representatives from 50 State departments of education, and from Puerto Rico, Guam, and the Virgin Island, participating in its activities. In addition, leaders in vocational education from 200 institutions of higher education participated in the activities of the center.

The stated objectives of the center are:

1. To provide continuing reappraisal of the role and function of vocational and technical education in our democratic society;
2. To stimulate and strengthen State, regional, and national programs of applied research and development directed toward the solution of pressing problems in vocational and technical education;
3. To encourage the development of research in institutions of higher education and other appropriate settings to improve vocational and technical education;
4. To conduct research studies directed toward the development of new knowledge and new applications of existing knowledge in vocational and technical education;
5. To upgrade vocational education leadership (State supervisors, teacher educators, research specialists, and others) through an advanced study and inservice education program;
6. To provide a national information retrieval, storage, and dissemination system for vocational and technical education linked with the Educational Research Information Center located in the U.S. Office of Education;
7. To provide educational opportunities for individuals contemplating foreign assignments and for leaders from other countries responsible for leadership in vocational and technical education.

The center declares that its multifaceted dimensions include interest and capability in basic and applied research, field testing, demonstration and dissemination activities, and leadership training. Emphasis is also placed upon the discovery of knowledge and its utilization.

Staff of the Center

The basic pattern followed in staffing the center has been to secure a competent, cosmopolitan, balanced staff of alert, dedicated professionals. Individuals have been selected who are committed to the basic purposes and operational approaches of the center, who have shown a breadth of vision and have demonstrated ability to work effectively with a wide range of educators, information science specialists, and personnel from supporting disciplines. Advanced training at the doctoral level, field experience, a personal interest, and demonstrated ability in research were considered as indicative of capacity to effectively plan, organize, and conduct leadership development activities. The individual staff members are recognized nationally as opinion leaders in their spheres of responsibility. They hold memberships and affiliations in more than a score of nationally known professional education organizations and fraternities.

That the center has met the above objectives in staffing seems evident from a review of the background of each staff member, as submitted in August 1966 as a part of the proposal to continue the operations of the center for a 5-year period. Selection of staff members has not been limited solely to the criteria indicated above. Many other factors were considered in the selection process, such as the ability to work well with others, to communicate effectively, and to contribute to the center's desire for diversity of professional experience in keeping with its interinstitutional and multidisciplinary commitments.

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[7] Much of the data in this section have been adapted from the proposal to continue the center, project 7–0158.

One of the positive side benefits of the center is the number of capable young people who are involved in various aspects of its program and who are working toward advanced degrees in vocational education and supporting disciplines. Typically, these individuals already had substantial State staff experience and bring to the center a needed perspective and viewpoint. Further, their participation in research, development, and training activities in their own service areas (which cut across all aspects of vocational education) provides them with essential intern experiences to supplement their graduate program.

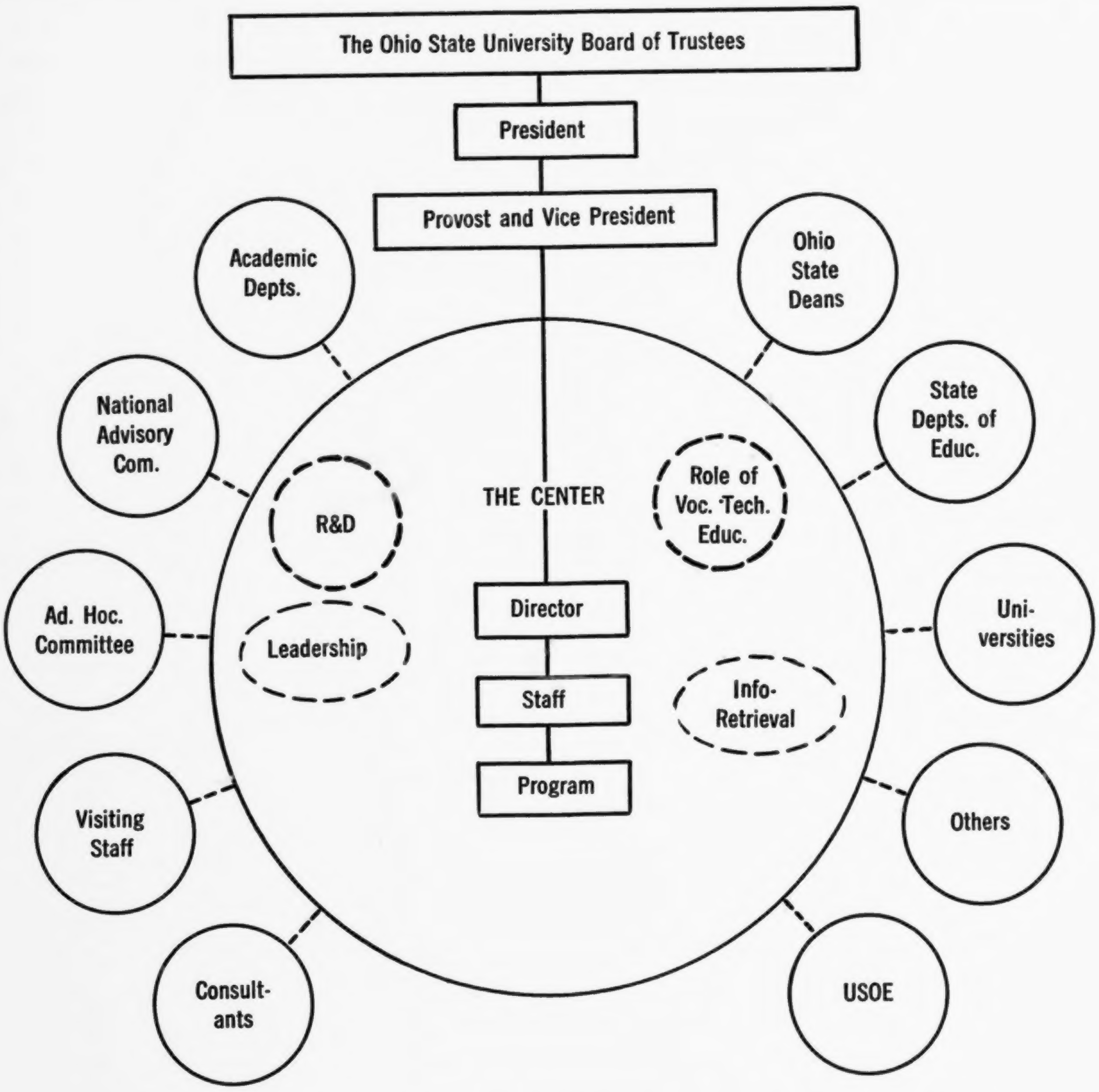
The Ohio State University Board of Trustees
President
Provost and Vice President
Academic Depts.
Ohio State Deans
National Advisory Com.
State Depts. of Educ.
THE CENTER
R&D
Role of Voc. Tech. Educ.
Ad. Hoc. Committee
Leadership
Director
Uni-versities
Staff
Info-Retrieval
Program
Visiting Staff
Others
Consult-ants
USOE

FIGURE 12.—Organizational chart and relationships, Ohio State University Center.

Educational Resources Information Center—ERIC

In effecting its dissemination role, the center operates the Clearinghouse on Vocational and Technical Education which is part of ERIC (Educational Resources Information Center, Division of Information Technology and Dissemination, Bureau of Research, U.S. Office of Education.) ERIC is evolving the first nationwide, comprehensive information system for American education by coordinating a program of decentralized clearinghouses.

Within this program, the Clearinghouse on Vocational and Technical Education is performing a number of important functions. Research and resource materials in vocational and technical education and its related fields are collected, abstracted, and indexed. As a result of this activity, abstracts are included in the central ERIC publication, "Research in Education," which is aimed toward coverage of all fields of education.

The clearinghouse is able to bring together the materials of specific interest to the vocational and technical education profession through the quarterly publication, "Abstracts of Instructional Materials in Vocational and Technical Education" (AIM), and the companion quarterly, "Abstracts of Research and Related Materials in Vocational and Technical Education" (ARM). These publications announce the availability of documents acquired and processed by the ERIC Clearinghouse on Vocational and Technical Education. AIM includes abstracts of materials typically designed for teacher use or student use in the classroom, and annotations of bibliographies or lists of instructional materials. It will be of particular interest to teachers, curriculum specialists, supervisors, and administrators involved in the use of instructional materials in the teaching-learning setting, or in curriculum development. ARM incorporates abstracts of research and other materials which are useful to a wide audience of users such as researchers, supervisors, teacher educators, education specialists, administrators, teachers, and others who have an interest in vocational and technical education.

The information found in these publications can be further repackaged or synthesized for use by specialized groups within the profession. Another activity of the clearinghouse includes the development of periodic reviews of materials in topical areas which will update the professional community. With the growth of vocational education programs, there is an increasing need for accessible information that can be used in developing logical chains of reasoning for research activities, for improved school practices, and for shortening the theory-practice gap. The clearinghouse provides a useful and vital role in the dissemination of information on vocational and technical education which will assist those who are involved in these important functions.

Summary of the Accomplishments of the Center

From March 1965 to August 1966, the center conducted 22 national institutes, conferences, clinics, and seminars in the areas of agricultural education, business education, vocational guidance, occupational education in home economics, trade and technical teacher education, office occupations, health occupations, technical education, instructional materials, and research reviews (associated with the ERIC system) which included consultant reviewers and writers. Included also were conferences on evaluation and program planning, a national seminar on development and coordination of the research coordinating units, and a special training program for persons who had assignments for conducting regional leadership conferences.

The North Carolina Center [8]

The organization of the center has been toward aggregate problems which cut across all fields of vocational and technical education, but not to the exclusion of some emphasis for specific problems in a specialized field. The North Carolina center differs from the Ohio center in that its organization and development has been directed toward delineation and examination of problems that form common denominators of the total program of vocational and technical education.

Fundamental Concepts of the Center

Five fundamental concepts are basic to the conceptualization and operation of the program.

1. *The concept of breadth of operation.* This concept involves a broad interpretation of the composition of educational preparation for work.

2. *The concept of integration.* The program rests on a foundation of the integration of academic disciplines—interdisciplinary and multidisciplinary.

3. *The concept of social ecology.* Although this concept is closely related to the concept of breadth, the intended emphasis seeks improvement of the effectiveness of vocational education with concern for the relation of education to its environment.

4. *The concept of universality.* Mindful of the primary obligation of the center to occupational education, and its responsibility to problems and practices peculiar to the South, the center is conceived basically and fundamentally as a resource input into the continual development of the total program of occupational education.

5. *The concept of flexibility.* Research efforts are directed toward the frontal edge of emerging developments in occupational education; exploration of promising areas as they are generated is deemed essential for the development of leadership in the reconstruction of programs of occupational education.

Objectives of the Center

1. To continue, develop, and prosecute a research program, interdisciplinary and multidisciplinary in content, addressed to crucial, pivotal, and fundamental problems underlying the initiation, expansion, intensification, and enrichment of programs of occupational education.

2. To continue, expand, and prosecute a program of research and development directed toward the es-

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[8] Much of the data in this section have been adapted from the proposal to continue the center, project 7–0348.

tablishment of more comprehensive bases for the evaluation of programs of occupational education at national, State, and local levels.

3. To continue, expand, and prosecute a program of research and development directed toward the development of models, systems, procedures, and techniques for the evaluation of developmental and related programs in occupational education.

4. To conduct a continual study and analysis of the significant and penetrating problems in occupational education at the cutting edge of progress, to which research and related activity effort should be directed.

5. To stimulate, foster, design, and assist in the development of research and related programs within and among institutions, agencies, research units, State divisions of vocational education, and individual research and program developers.

6. To initiate, develop, and operate training programs emphasizing research methods and techniques and practical experience in research and related activity, for researchers and potential researchers in occupational education and allied fields, and to facilitate the individual development of promising researchers in occupational education.

7. To coordinate the program of the center with other agencies and programs, such as the programs of the research coordinating units and the occupational education programs of the regional educational laboratories, and to organize and conduct conferences, institutes, and task forces designed to facilitate the coordination and development of research and related activity, and to provide short course training programs for research and development personnel.

8. To disseminate the products of research, and to facilitate the introduction of the products of research and related activity into programs of occupational education.

Accomplishments of the Center

The initial 18-month program of the center was focused on two major activities: (1) Research and development on fundamental problems of occupational education, organized into six subject-matter areas, and (2) development of a program to upgrade training and education, through conferences and short courses, for lay leaders, vocational education personnel, and researchers.

Core Research and Development Program

The Core Research and Development Program of the center included six major project areas.

1. Occupational Adjustment in the South.
    a. Occupational employment levels, distributions and trends since 1940.
    b. Occupations and age patterns and occupational employment participation rates in the South since 1940.
    c. Net Interoccupational mobility in each main occupation in the South for 1950–60.
    d. Levels of compensation and their effect on occupational change.
2. Shaping Fexible Vocational Behavior of Youth.
    a. Attributes of youth in six selected communities.
    b. The generalist counselor.
    c. The general technical teacher program.
3. Policies and Policymaking for Occupational Education.
4. Professional Personnel.
    a. The supply and demand of occupational education teachers.
    b. Recruitment of teachers for 2-year post-secondary institutions.
    c. Emerging role patterns of teachers of occupational education.
        (1) Social participation of the vocational education teacher.
        (2) Role conflict of the vocational education teacher.
        (3) Role expectations held for teachers.
        (4) The teacher of occupational education as an adopter of new practices.
5. The Evaluation of Occupational Education.
6. Occupational Education for Areas in Economic Transition: A Total Community Approach.

Services and Conferences Program

The conferences, seminars, and task forces included in the Conferences and Short Courses Program were:

1. National Vocational Education Seminar on Occupational Mobility and Manpower.
2. Overview Conferences on Vocational Education Problems in the South.
3. Regional Seminar for State Leaders in Vocational Education on Inservice Education.
4. Regional Conference on Supply and Demand of Teachers of Occupational Education in the South.
5. Seminar on Planning Developmental and Related Programs in Occupational Education in HEW Region III.
6. Seminar on Planning Developmental and Related Programs in Occupational Education in HEW Region IV.
7. Analysis of Problems in Teacher Education

Programs in Vocational and Technical Education in Small Colleges.

8. Task Force to Explore Research and Development Possibilities for Comprehensive Vocational Education Curricula in the Modern Secondary School.

9. Task Force for Vocational Teacher Education.

10. Conference on Establishment of Research Coordinating Council.

For the 5-year continuation of the center, the overall center activity has been divided into five programs, including a Research Program, an Evaluation Program, a Research Development Program, a Research Training Program, and a Services and Conferences Program.

The *Research Program* basically is an extension of the Core Research and Development Program which was started during the initial 18-month contract period. Five project areas are included in the research program:

1. Manpower Needs and Development in Occupational Education.
2. Occupational Education in Areas of Economic Transition.
3. Vocational-Technical Training in Relation to Career Progression.
4. The Anatomy of Decision Making and Change in Policies, Organization, and Administration of Local Programs of Occupational Education.
5. The Effect of Adult Basic Education on Occupational Adjustment and Acculturation.

The *Evaluation Program* includes two major thrusts:

1. The development of models, systems, procedures, and tecnhiques for the evaluation of developmental and related programs in occupational education.
2. The establishment of more comprehensive bases for the evaluation of programs of occupational education.

The *Research Development Program* is designed to focus the resources of the center on:

1. The determination of problems toward which research effort should be directed.
2. The initiation of developmental and related programs designed to introduce the products of research into operational programs.
3. The establishment of consortia to develop broad research programs.

The *Research Training Program* is designed to prepare persons at the doctorate level as researchers in occupational education.

The *Services and Conferences Program* is the vehicle through which consultation services of the Center will be made available to researchers in ocupational education and through which seminars, task forces, dissemination conferences, workshops, and training institutes will be organized and conducted.

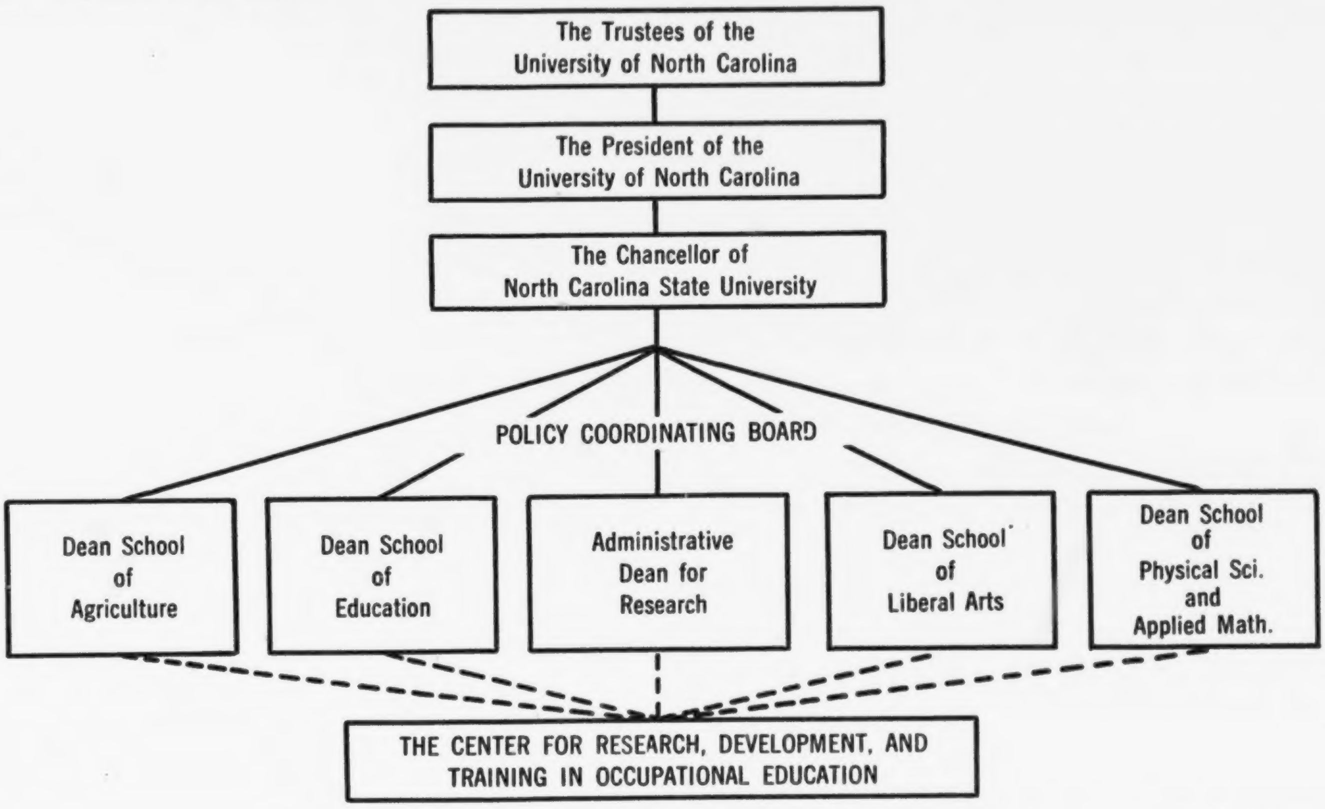
The Trustees of the University of North Carolina
The President of the University of North Carolina
The Chancellor of North Carolina State University
POLICY COORDINATING BOARD
Dean School of Agriculture
Dean School of Education
Administrative Dean for Research
Dean School of Liberal Arts
Dean School of Physical Sci. and Applied Math.
THE CENTER FOR RESEARCH, DEVELOPMENT, AND TRAINING IN OCCUPATIONAL EDUCATION

FIGURE 13.—Administrative structure, Center for Research, Development, and Training in Occupational Education at North Carolina State University.

VOCATIONAL EDUCATION RESEARCH COORDINATING UNITS

Recognizing that many State departments of education were not adequately staffed to assure the conduct of desirable research and training programs under either section 4(a)(6) or section 4(c), the U.S. Office of Education suggested establishment of State vocational education research coordinating units. In April 1965 the Commissioner invited all States to submit proposals for establishment of such units.

Although it was obvious that the emphasis of such a unit would vary from State to State, depending upon the status of the occupational research program in a State, the following suggestions were made to indicate in general the functions of the research coordinating units:

> Identify issues and problems relating to the nature and place of vocational education in the State school system, and determine the contributions which occupational research and development could make in resolving them.
>
> Identify and maintain an inventory of available occupational research and develop resources in light of anticipated needs and programs within the State.
>
> Survey available data on employment opportunities, emerging occupational trends, and future job projections, as a base for planning vocational programs, curricula, and facilities within the State, and teacher training, recruitment, and placement.
>
> Stimulate and encourage occupational education research and development activities in State departments, local school districts, colleges and universities, and nonprofit organizations.
>
> Participate in the development, monitoring, or conduct, as appropriate, of occupational research and development projects supported by Federal, State, local, or private organization funds.
>
> Coordinate occupational research activities conducted within the State by the agencies noted above, and with those being conducted outside the State.
>
> Disseminate information on the progress and applications of the results of occupational education research.
>
> Stimulate activities which will result in increased interest and improved competence in research such as encouraging preservice and inservice training of occupational researchers.[9]

Thus the States were asked to focus attention on the matter of research, with the intent of maximizing both the quantity and quality of the effort directed toward the general improvement of vocational education. Each research coordinating unit (RCU) was scheduled for support by the Office of Education, from the research funds of section 4(c) of the Vocational Education Act of 1963, for a period of 3 years. After that period the plan for RCU's involved a gradual phase-out of Federal support in anticipation of full support from the State or institution sponsoring the program.

Some of the States chose to organize the RCU as a part of the general administrative organization of vocational education at the State level, while other States developed a cooperative plan with one of the State universities. One State assigned the responsibility to a research foundation.

A study of the placement of the RCU in the State organizational system indicated that there were no significant differences in the basic patterns of organization.

Twenty-four RCU's were authorized for fiscal year 1965 and an additional 24 for fiscal year 1966. The placement of the RCU's in the State organizational system is shown in table 68.

TABLE 68.—*Placement of research coordinating units in the State organizational system*

Fiscal year 1965	Fiscal year 1966	Total	Location
14	11	25	State departments of education.
10	8	18	Universities.
0	1	1	Research foundations.
24	20	44	Total RCU's.

Funding of the research coordinating units was based upon submission of project proposals as required for all 4(c) projects; the proposals were reviewed by a special committee. Funding of the RCU's for fiscal years 1965 to 1967 is shown in table 69.

Allocations for research coordinating units have been projected for fiscal year 1968 in the amount of $1,597,032, and for fiscal year 1969 in the amount of $552,986.

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[9] Letter to State directors from Director, Division of Adult and Vocational Education Research, Bureau of Research, U.S. Office of Education, dated Mar. 11, 1966.

Table 69.—*Funding of research coordinating units, fiscal years 1965–67*

	Contracting agency	1965	1966	1967
1	University of Minnesota	$99, 575		$85, 373
2	University of North Dakota	99, 887		89, 805
3	Mississippi State Department of Education	92, 727		95, 339
4	California State Department of Education	97, 902		
5	New York State Department of Education	97, 437		139, 548
6	University of Idaho	97, 638		91, 426
7	New Mexico State Department of Education	72, 559		76, 185
8	Oregon State University	102, 531		122, 827
9	University of Nebraska	100, 168		92, 488
10	Illinois State Board on Vocational Education	100, 327		100, 183
11	Colorado State University	109, 330		81, 150
12	Washington State Department of Education	96, 554		75, 000
13	Montana State Department of Education	72, 789		68, 531
14	New Jersey State Department of Education	103, 060		92, 870
15	Iowa State Department of Education	102, 584		82, 639
16	Connecticut State Department of Education	84, 919		108, 945
17	University of Kentucky	100, 129		123, 739
18	Michigan State Department of Education	82, 687		
19	Arizona State College	100, 000		88, 813
20	Utah State Department of Education	79, 871		85, 550
21	Ohio State Department of Education	93, 142		
22	Florida State Department of Education	59, 710		98, 583
23	Oklahoma State University	40, 910	$17, 538	92, 318
24	Wisconsin State Board on Vocational Education	87, 643		
25	Indiana State Board on Vocational Education		119, 070	
26	Louisiana State Department of Education		58, 324	
27	West Virginia State Department of Education		46, 090	
28	University of Nevada		118, 258	
29	Research Foundation—Kansas		113, 330	
30	Wyoming State Department of Education		82, 060	
31	University of Tennessee		124, 948	
32	Georgia State Department of Education		80, 649	
33	University of Arkansas		41, 547	
34	Massachusetts State Department of Education		85, 186	
35	North Carolina State University		117, 382	
36	New Hampshire State Department of Education		75, 289	
37	Pennsylvania State Department of Education		133, 199	
38	Delaware State Department of Education		60, 000	
39	Clemson University, South Carolina		69, 360	
40	Texas Education Agency		70, 085	
41	Missouri State Department of Education		128, 384	
42	University of Hawaii		46, 132	
43	Alabama State Department of Education		63, 985	
44	Rhode Island College		39, 481	
	Total expenditures	2, 174, 079	1, 690, 297	1, 391, 312

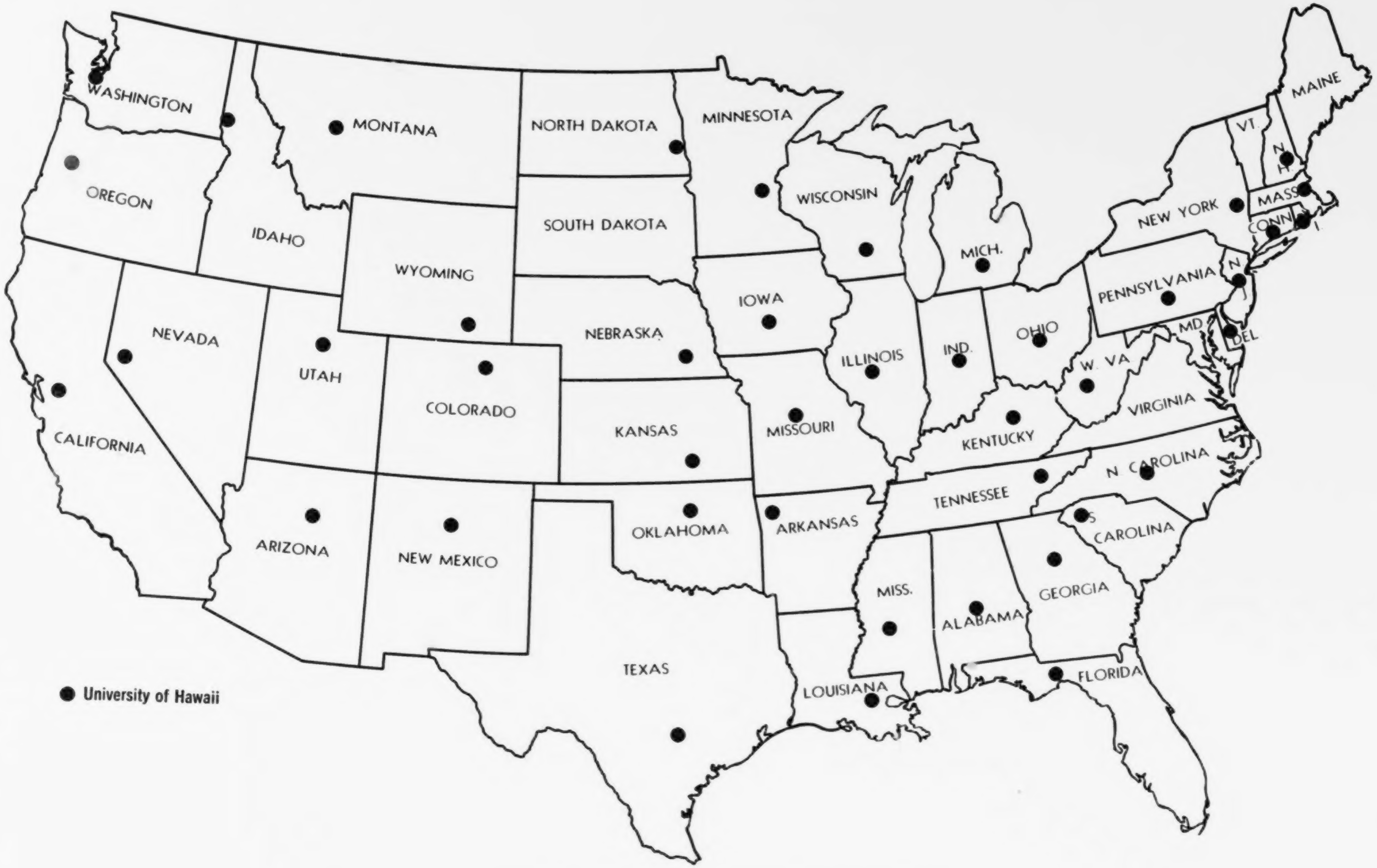

WASHINGTON
OREGON
CALIFORNIA
NEVADA
IDAHO
MONTANA
WYOMING
UTAH
ARIZONA
COLORADO
NEW MEXICO
NORTH DAKOTA
SOUTH DAKOTA
NEBRASKA
KANSAS
OKLAHOMA
TEXAS
MINNESOTA
IOWA
MISSOURI
ARKANSAS
LOUISIANA
WISCONSIN
ILLINOIS
MICH.
IND.
OHIO
KENTUCKY
TENNESSEE
MISS.
ALABAMA
GEORGIA
FLORIDA
S CAROLINA
N CAROLINA
VIRGINIA
W. VA
MD
DEL
N J
PENNSYLVANIA
NEW YORK
VT.
N H
MAINE
MASS
CONN
R I
● University of Hawaii

Figure 14.—Location of research coordinating units.

Function of RCU's

Directions for research coordinating units were provided by the U.S. Office of Education in terms of rather general objectives. Thus the States were reasonably free to interpret the general guidelines and develop plans for implementation that would reflect their specific needs. The basic intent, however, was to focus on research in such a way as to extend in quality and quantity research effort in each of the States, and to increase the research consciousness of the total vocational education community.

The role of the research coordinating unit was summarized at a meeting in Washington, D.C., in July 1965, in terms of the following broad objectives:

1. Build an atmosphere within a State that commits itself to research, and is receptive to it—especially with State staff, school leaders, and legislators.
2. Stimulate projects, ideas, and understanding of research.
3. Provide leadership in research related activities such as seminars and conferences.
4. Coordinate State education research efforts in State agency and with other State government and professional agencies and professions.
5. Serve as consultants on research ideas and projects that forward vocational education.
6. Disseminate research information that enables others to utilize recent research findings.
7. Identify research training needs and personnel.
8. Work toward the identification of basic issues and problems needing research.
9. Develop long-range plans for research.
10. Gather or assist in gathering needed data for a potentially computer based system of educational information.
11. Work closely with Research and Development Centers, and with U.S. Office of Education personnel in coordination of total research effort.

In general, the following are indicative of the types of activities undertaken in most States:

- Establishment of a State Research Advisory Committee composed of representatives from colleges and universities, vocational schools, State department of education, local school districts, State employment service, business, industry, and labor.
- Inventory of research resources within the State, including the identification of individuals and organizations actually or potentially involved in vocational research.
- Review of State vocational programs and identification of outstanding problems amenable to research.
- Formulation of overall State research philosophy, establishment of research priorities, assignment of roles, and coordination of efforts.
- Dissemination of research information and findings through conferences, newsletters, and other media.
- Review of research proposals and provision of technical consultant services to local school district researchers and others.

That the various States would differ considerably in their approach to implementing the RCU's was anticipated, and, to some extent, encouraged. Reporting of activities by RCU's, therefore, follows no predetermined plan except for the requirement of quarterly technical reports and a final project report. Therefore, the reported activities of the research units show many projects in common, but at the same time the units show extreme differences in the nature of their research commitment. A general description of activities was gleaned from letters, progress reports, and final reports from 15 States covering the period of their first contract.

The research coordinating units have organized most of their activities around objectives suggested by Commissioner Keppel, in April 1965, in his original letter to the States inviting proposals.

1. *Obtain Occupational Data.* Some have limited their effort to specific areas such as a survey of the lumber industry in Idaho, of the electronics industry in Colorado, of health needs in New York, of occupations related to agriculture in Nebraska and several other States, and of bricklayers in Iowa. Almost every RCU has had a part in some such survey. A few have mounted a broad survey of occupational needs to be used in future program planning. The Illinois study by Corplan Associates is one of the most extensive and useful. Nebraska is now organizing a similar comprehensive study. More work needs to be done in relating the data accumulated by the U.S. Department of Labor to State and local needs. It is hoped a national matrix of occupational needs can be developed which could then be applied to each State, standard metropolitan area, or specific area as desired.

2. *Stimulate and Encourage Research.* The units have been at the cutting edge of innovative programs in various States. Through the New Jersey unit, over $2 million of 4(a) money was pumped into pilot programs. Illinois triggered the use of over $1 million for experimentation, field test, and demonstration. The necessity of rapidly visible research results caused more and more of the units to turn to action research projects early in their organizational life. New York and Con-

necticut developed a joint attack on special problems which were funded cooperatively or through other 4(c) proposals. Utah, Iowa, Michigan, and New Mexico are examples of other States that started an early program of 4(c) grants. Some States have generated heavy activity leading toward added 4(c) grants. A lack of added money has limited the acceptance of these unsolicited proposals by USOE. A few States have been successful in involving other agencies with their new activities. The southwide group of RCU's have involved title III of the Elementary and Secondary Education Act, the North Carolina State University Research Center, the regional laboratories, and other agencies in their efforts. Kansas, through its State sponsored and financed foundation, has sought to support added activities from general State funds. Arizona has utilized grants from other sources, and New Mexico has obtained support through the State Chamber of Commerce.

3. *Identify Issues and Problems.* In many cases the RCU's have provided the impetus and the procedure to plan for statewide restructuring and attack on emerging problems. Georgia has used a part of its grant funds to initiate and develop a new State plan for vocational education. New Jersey is developing a master plan through efforts of the RCU. Pennsylvania has just commissioned a study of vocational education problems. Most of the units gave a variety of efforts to this objective early in their operation. Illinois developed a report "Planning for Measured Change" impinging on this specific problem as a result of a statewide planning conference. Issues and problems as identified most often determined which vector the unit would emphasize in its further action. Iowa and New Mexico have worked extensively on the preparation of standards and guidelines for area schools. The Arizona Vocational Research Council was created through the RCU to identify and evaluate research needs in Arizona.

4. *Inventory of Research Resources.* This activity has been primarily a compilation and assembling of research works with annotated bibliographies and lists of available sources of information. California, Florida, Nevada, and Illinois show the most comprehensive accumulations. Little has been done to identify researchers as a group within the vocational education community. Organization of the American Vocational Education Research Association and rudimentary attempts to develop a national "Who's Who" of vocational education researchers have been spearheaded by some RCU personnel.

5. *Coordinate Research Activities.* Here is one of the great challenges of the units—one to which every unit directed immediate attention—and one of the hardest objectives on which to document results. An organizational structure such as the Kentucky RCU which brings the University of Kentucky and the State department of education into operating juxtaposition has a nonstatistical, unmeasurable value. The growing procedure of adding graduate assistants from some or all of the universities of the State to the RCU staff, as done in Kansas, has merit. Cooperative relationships and combined use of funds from Public Law 89–10 and Public Law 88–210 will improve research efficiency in many States as exemplary efforts are coordinated by the RCU's. Several have worked closely with the Manpower Development and Training Program to plan cooperative surveys, followup activities, and combined efforts to effectively use staff, facilities, and equipment.

6. *Disseminate Information.* Understandably, most units did not immediately pursue this objective. As the materials, demonstrations, tested ideas, and designs accumulated, many saw the need for a system which would allow them to quickly and rapidly spread the word in their State. Newsletters, bulletins, and special publications were originated, with several excellent flyers which outlined RCU purposes and services. Minnesota, Kentucky, and Indiana each produced one worth noting. Most unit directors immediately saw this was insufficient, and systems of accumulation were designed or a direct tie-in to the ERIC system was effected. At the moment, the latter shows the most promise. Tennessee and Oregon have done exemplary work toward the establishment of relatively autonomous accumulation, search, and retrieval systems. Nebraska is establishing a vocational data bank and retrieval system. California, New Mexico, Minnesota, Montana, and Illinois were among the early States to establish a close retailer relationship with the ERIC clearinghouse. Utah is establishing a research communications channel to local teachers.

7. *Improve the Competence of Researchers.* Both extremes of the spectrum of competency have been served by this objective. The RCU's have participated actively in the National Seminars for Vocational Education Research. A few, such as Minnesota and Kentucky, have done excellent work in increasing the competency of researchers who have already demonstrated their capabilities by prior participation in significant research activities. Others have searched for a method to instill an enthusiasm and a capability for innovation in many vocational educators who have not had a research back-

ground nor a high level of training in technical research skills. Many conferences, meetings, seminars, courses, etc., were planned, conducted, and participated in by RCU staff members pointing toward this level of training. Some of the best thought and effort to upgrade the lower level researcher has occurred in Michigan, Wisconsin, and Delaware.

Research coordinating units have also sponsored conferences and seminars relating vocational education to the needs of disadvantaged youth, and to vocational guidance and counseling. The units have sponsored and/or participated in vocational education program evaluation, preparation of standards, guidelines, recommendations for surveys, and techniques of data collection.

Some States, and Oregon is a good example, have provided an extensive evaluation of the activities of their research units. The Oregon RCU evaluated its aims by reference to opinions of 123 educators. Ninety-three percent of the educators believed that identifying researchable problems in vocational education was an aim of the unit; 90 percent agreed with the aim of stimulating and encouraging quality research; 86 percent felt that the unit should upgrade research competencies of vocational educators; 86 percent encouraged the aim of disseminating information; and 85 percent felt that the unit should assist local schools to translate research theory into innovative programs and practices, and upgrade research competencies of vocational educators. The same group of educators reported also on the relative importance of a variety of activities of the research coordinating unit.

The Florida RCU was given the responsibility of developing procedures for effective evaluation of vocational education in the State. The requirement of a final report at the end of the original 18-month contract period has resulted in at least rudimentary efforts at self-evaluation by each unit.

Thus, with even incomplete data concerning the total activities of the RCU's, there is abundant evidence that a majority of the units have made significant progress in developing research mindedness in vocational education, and have stimulated significant developments.

DISSEMINATION OF RESEARCH INFORMATION

One of the basic purposes of the research program was to provide information which could be used for the improvement of vocational education. It is quite difficult to make improvements, based upon research information, if this information is not made available to the operating program of vocational education. Delays in making such information available were expected because the very nature of a research program has inherent in its operation a time lag between research completed and impact upon the program of vocational education. However, several steps have been taken to overcome the problems involved in dissemination.

Educational Research Information Center—ERIC

The ERIC system, when fully operative, will provide central storage, classification, and retrieval of all educational research studies in the United States. An ERIC periodical, "Research in Education," published by the Government Printing Office, provides monthly information on recently completed research projects as well as on new studies which are being initiated. Persons interested in a particular study may obtain a full copy of the final report from the ERIC Document Reproduction Service, either on microfiche or in hard copy. A network of specialized ERIC clearinghouses, soon to be linked to the system, will provide additional capabilities both for input and for search and retrieval in specific areas of interest such as vocational-technical education, adult education, and guidance. The research center at Ohio State University has been designated the ERIC clearinghouse in the area of vocational-technical education.

State directors of vocational education, research coordinating unit directors, and other key vocational personnel have been encouraged to subscribe to "Research in Education" as a means of keeping their staffs abreast of current research efforts and findings. Since the periodical has only been in existence for a few months, its full impact has not yet been felt, but in time it will become a valuable channel for dissemination of the results of the vocational research and development program.

Division of Comprehensive and Vocational Education Research Lists

At the end of each fiscal year mimeographed lists of all projects approved and funded during the year have been mailed to all State directors of vocational education and to all RCU directors. RCU directors have been encouraged to duplicate the lists and disseminate them within their States.

At intervals, other mimeographed listings of completed projects, on which final reports have been received, have been furnished to State directors of vocational education, to RCU directors, and to various journals, agencies, and institutions. Both the lists of approved projects and the lists of completed projects have been displayed and distributed at professional association meetings, conferences, and conventions.

Reviews and summaries of some research and demonstration projects have been prepared in popular language. One such publication deals with new trends in vocational agriculture. In another proposed publication five case studies of vocational-technical education innovation will be described. The writer personally visited five different locations, interviewed the people involved, and wrote the story about how innovation was introduced and what was accomplished in each situation. These will be published in an attractive illustrated booklet for wide distribution.

American Vocational Journal

The American Vocational Journal will be expanded to include a special section on significant findings of research and development projects. This section will appear monthly beginning with the September 1967 issue of the Journal, and will reach 40,000 vocational teachers, supervisors, administrators, and researchers. A newly appointed research editor of the Journal, with advice from the Research Committee of the American Vocational Association, will group and synthesize the results of clusters of related projects and will highlight the implications of the findings for practical application in current vocational programs.

While much remains to be done to broaden the dissemination efforts and make them more effective, a start has been made during the 3 fiscal years the research program has been in operation. With the ERIC system coming into full operation and with the opening of channels through journals and special, popularly written booklets, it is anticipated that substantial improvements in the dissemination of the research continuum will be achieved.

SUMMARY

Provisions for research in vocational education, which had long been recognized as a major need, were made a part of the Vocational Education Act of 1963. Ten percent of the money appropriated under the terms of the act were reserved to the Commissioner of Education for use in research in vocational education. Accordingly, $11.85 million was made available for fiscal year 1965, and $17.75 million for fiscal year 1966, but in fiscal year 1967 the appropriation was reduced to $10 million—approximately 4.8 percent instead of 10 percent. Projected appropriation for fiscal year 1968 for research is $13.55 million, or roughly 6.8 percent, instead of 10 percent.

Organizational relationships for research, approved by the Commissioner of Education on July 20, 1964, assigned the research function to the Division of Vocational and Technical Education.

On the basis of recommendations of the White House Task Force on Education, research in vocational education was transferred on July 1, 1965, to the newly created Bureau of Research and was assigned to the Division of Adult and Vocational Research. Concurrently the Division of Vocational and Technical Education was assigned to the newly created Bureau of Adult, Vocational, and Library Programs. On July 1, 1967, the name of the Division of Adult and Vocational Research was changed to the Division of Comprehensive and Vocational Education Research, and continued as a Division of the Bureau of Research.

The 448 projects and $39 million, for fiscal years 1965–67, were distributed among seven predetermined priority areas for research emphasis. These areas were: (1) Program evaluation; (2) vocational education curriculum; (3) personal and social significance of work; (4) personnel recruitment and development; (5) program organization and administration; (6) adult and continuing education; and (7) occupational information and career choice.

The council reviewed all projects completed and reported up to July 1, 1967. An analysis of each project was made, and illustrative examples of research completed were included in the discussion of research for each priority area. In addition, the council studied proposal summaries of funded projects which had not been completed.

A wide range of research topics within the seven priorities was noted. Research allocations were made nationwide and involved a large number of sophisticated research personnel in education and in related disciplines.

In the spring of 1965, two national vocational education research centers were established; one at the Ohio State University and one at the North Carolina State University. Establishment of the centers had been urged by vocational educators in general, and their activities were culminated in a resolution of the House of Delegates of the American Vocational Association in December 1963. Actual development of the centers satisfied a "felt need" among vocational educators for a specific focus upon research in vocational education.

The centers interpret their research roles broadly, and the content and direction of the work undertaken by each is different. However, both have involved a number of persons on a national basis, from a number of States and universities, and they have conducted a number of conferences, workshops, and seminars. Plans for the fall of 1967 include an on-the-spot evaluation of the achievements of the centers by the Division of Comprehensive and Vocational Education Research.

Establishment of research coordinating units was authorized in April 1965, and subsequently such units were established in 44 States. It was intended that the units give concentrated attention to research for the purpose of extending the quality and quantity of research undertaken in the States. Although the RCU's differ among the States, a number of activities are common to all. For example, nearly all have established a State Research Advisory Committee, have inventoried research resources, have formulated a research philosophy, and have provided service to local schools in regard to a variety of research activities. The Division of Comprehensive and Vocational Education Research plans an evaluation program specifically for the units during the fiscal year 1968.

A start has been made in connection with the dissemination of research information through the Educational Research Information Center (ERIC), and by the periodic lists of research projects provided by the Division of Comprehensive and Vocational Education Research. A plan is under way for publication of case studies of innovative projects, and a special section in the American Vocational Journal, beginning with the September 1967 issue, will provide a brief analysis of research projects in terms that will provide valuable information to teachers and other persons in vocational education.

Chapter 6

Teacher Education

Teacher education for vocational teachers developed in relationship to the various areas of emphasis. For example, programs of teacher education were organized and conducted for agriculture, home economics, trades and industry, and the other areas with special concern for the unique problems in each of these areas. There are, of course, many similarities in these teacher education programs, but the greatest differences are to be found in the programs where special emphasis has been placed upon actual work experience requirements in skills and technical knowledge to be taught.

Although the actual arrangement for teacher education varies considerably among the States and in the various areas, all States have explicit specifications for the preparation of teachers in vocational education.

HOW LARGE IS THE TASK OF TEACHER EDUCATION?

One measure of the size of the teacher education task is the number of teachers employed. It was not until 1965 that an unduplicated count of all vocational teachers was made. The number that year was 109,136. For 1966 the number had increased to 124,042, a gain of 16.6 percent. The number of teachers is shown in table 70.

TABLE 70.—*Number of teachers of vocational and technical education programs,*[1] *fiscal years 1964–66*

Year	Number of teachers
1964	85, 102
1965	109, 136
1966	124, 042

[1] Adapted from the paper, "What's Ahead for Vocational Education," prepared by Division of Vocational and Technical Education, Bureau of Adult, Vocational, and Library Programs, U.S. Office of Education, Mar. 15, 1967, p. 13.

An analysis of preservice teacher education programs indicated that approximately 30 percent of the number of teachers employed were enrolled in preservice programs. A similar analysis indicated that approximately 30 percent of the teachers had been enrolled in inservice programs.

TABLE 71.—*Enrollments in teacher education programs in vocational and technical education,*[1] *fiscal years 1965 and 1966*

Year	Total	Preservice	Inservice
1965	69, 051	33, 771	35, 280
1966	77, 091	38, 774	38, 317

[1] "What's Ahead for Vocational Education?" p. 13.

Two problems complicate an analysis of the size of the teacher education task in vocational education. First, the fact is that roughly half (51.1 percent in 1966) of the teachers are full-time teachers and about half are part-time teachers. Teacher education requirements apply to both groups, but not the same requirements. Second, many of the part-time teachers in the adult phase of vocational education are also teachers in the secondary or post-secondary phases of the vocational education program. The number of teachers in the secondary phase who were also employed part time in the adult program increased 16.1 percent from 1965 to 1966; post-secondary teachers increased by 36.4 percent in the part-time adult programs. The largest number of teachers in the part-time adult program are recruited from business and industry. This group showed an increase of 4.6 percent for the period 1965–66.

NUMBER AND DISTRIBUTION OF TEACHER EDUCATORS

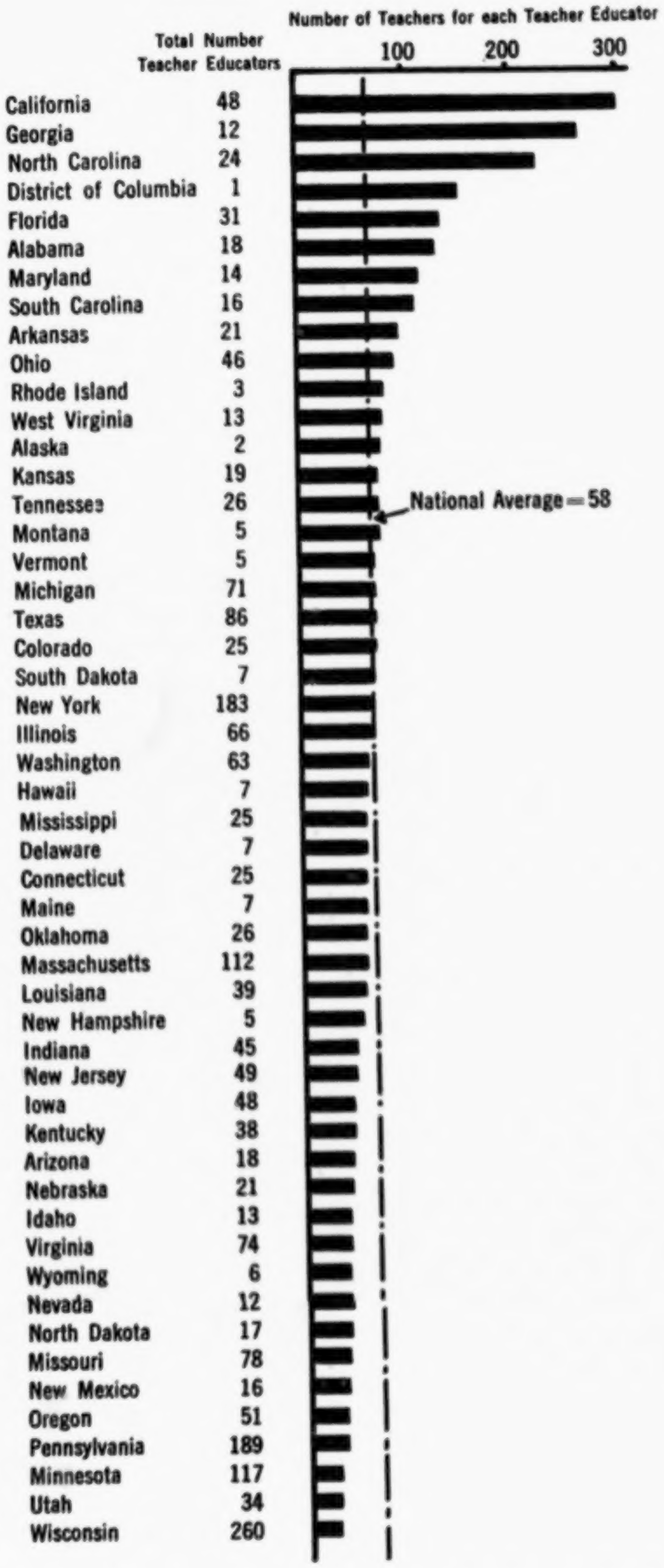
Despite the depth of concern for teacher education, little evidence can be found of similar concern for the persons who teach the teachers. Neither the Federal acts nor the rules and regulations for the administration of vocational education provide any standards for the selection or preparation of teacher educators.[1]

Both the number and qualifications of teacher educators are determined by each State, and accordingly wide differences exist among the States. Figure 15 shows the relationship between the total number of teachers and the total number of teacher educators, full time and part time, in each State. In 1966, the States identified 2,145 teacher educators located in 260 institutions, and 56 teacher educators located on State staffs, as having been designated as vocational teacher educators.

Interpretation of figure 15 is difficult because little is known about how each of the States interpreted the requirement of the reporting system which asks for the numbers of teacher educators, and because the actual practices of conducting teacher education vary widely, particularly in the areas of trade and industrial and technical teacher education. Even an assumption that the number of teacher educators reported represents persons whose services were funded under the provisions of the vocational education acts is doubtful. Even if the assumption were true, it is known that other persons provide inputs for the teacher education program who are not counted. Nevertheless, it would appear that States with large numbers of vocational teachers per teacher educator are understaffed. Outside of the fact that the national average is 58 vocational teachers per teacher educator, there is no way of knowing whether this represents an optimum relationship.

Figure 16 shows the number of teacher educators, full-time and part-time, for each of the substantive areas of vocational education. Differences between the numbers of full-time and part-time teacher educators in the various areas reflect both the differences among the States and characteristics related to the operational programs of the various areas of vocational education.

Comparison of the percentage of teacher educators and the percentage of the total enrollment for the



Data Supplied by Division of Vocational and Technical Education, U.S. Office of Education.

FIGURE 15.—Number of vocational teachers per teacher educator, fiscal year 1966.

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[1] Qualifications of teacher educators and their professional preparation are discussed later in this chapter.

TABLE 72.—*Comparison of number of teacher educators and total enrollment by occupational category 1966*

Category	Percentage of teacher educators	Percentage of program enrollment
Agriculture	11	15
Distributive education	5	7
Health education	1	2
Home economics	33	31
Office	13	20
Technical	3	4
Trade and industrial	24	21
Guidance	9	....
Other	1	....

various substantive areas of vocational education indicates the relationships shown in table 72.

The relationship indicated is nationwide and does not describe the vast differences among the States and among the substantive areas in a State.

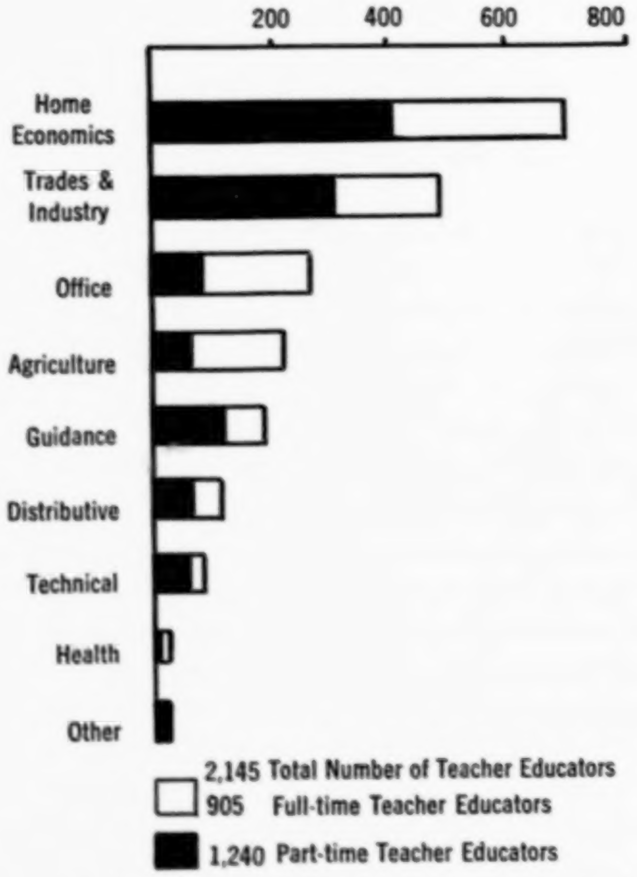

FIGURE 16.—Number of teacher educators, by type of program, fiscal year 1966.

REVIEW AND ANALYSIS OF CONTEMPORARY TEACHER EDUCATION PROGRAMS

The brief reviews of the various areas of teacher education which follow highlight some of the unique features of vocational teacher education and provide the rationale upon which both general and specific recommendations can be developed.

Status of Teacher Education Programs

Many programs in vocational teacher education are carried out in colleges and universities, through a cooperative plan involving State departments of education, subject matter instructors, professional education staff, and the teacher educator(s) who serves as coordinator and takes initiative in planning and improving programs. Teacher educators usually have met certification requirements for teaching in their vocational field; have experience in teaching in adult and/or secondary programs; and have a master's degree which includes some advanced work in professional education. Many well-established programs include at least one teacher educator who has a doctor's degree. The number of teacher educators holding the doctor's degree has increased significantly since 1955, and it is now the expectation of many institutions of higher education that teacher educators have attained or will attain the doctorate, usually in education.

A majority of the teacher education programs in colleges and universities are undergraduate. In recent years, however, graduate programs have been established which provide teachers for post-secondary programs in technical institutes and junior colleges.

Curricular Patterns

The curricular patterns for teacher education programs are essentially similar. Included are the following:

1. *General or liberal arts education.* The prospective teacher is expected to have the same general education preparation as other students who are pursuing a program of professional preparation for teaching. This comprises 30 to 50 percent of the total program.

2. *Technical or subject matter courses.* Prospective teachers are provided with the knowledge and skills they will use in teaching. These courses are usually taught in such colleges (divisions or departments) as agriculture, business administration, engineering, and home economics.

3. *Professional education.* This constitutes 10 to 20 percent of the total program and includes foundations of American education, educational psychology, special methods, and a period of student teaching. Student teaching is usually carried out in public schools under the direction of a master teacher in the vocational area in which the student is preparing.

In addition, a number of institutions expect the prospective teacher to demonstrate occupational competency through course work and/or to have had related work experience.

The actual number of course hours varies according to the requirements of the individual departments, the institution, and State certification requirements (general as well as vocational). Regional accrediting associations may also have an influence on the specific number of hours for a given subject or area of concentration.

On a national basis, the certification requirements for vocational teachers are reasonably consistent. The greatest consistency is noted in the requirements for secondary school teachers and teacher-coordinators. Requirements for serving as an adult teacher, or teacher at the post-secondary level, show the greatest variation among the States. Preparation as vocational teachers for secondary schools is in some instances considered basic for mobility to other vocational teaching positions. The full-time adult teacher may receive additional work in adult education. The post-secondary teacher may take additional technical course work and advanced work in teaching. Supervisory positions are usually filled by teachers who have shown success patterns and leadership potential. Courses designed specifically for part-time teachers operate in some of the States. The more successful courses, as in the case of those for full-time teachers, appear to be under the direct supervision of teacher educators.

Emerging Practices

The following revisions are being made in some teacher education institutions. Present evaluations would indicate that these changes are worthy of study by other institutions.

1. The undergraduate curriculum has become more flexible to permit some students to broaden their knowledge of subject matter while others become more specialized.

2. Content of courses has been changing. Trainees are prepared to plan curricula, prepare instructional programs and materials, and plan employment experience programs for new and expanding occupations such as off-farm agricultural occupations, electronic data processing, technicians in health occupations, or occupations using knowledge and skills of home economics.

3. New courses have been added to the curriculum both in professional education and in other fields. In some cases separate courses have been added dealing specifically with the methodology of preparing workers for employment in specific occupations.

4. The nature of employment experience programs in various vocational fields has made it necessary for instructors to work more closely with personnel in the other areas of vocational education and especially in vocational guidance. Individuals from several services are being involved in both the preservice and inservice programs.

5. Special workshops and conferences are being held for employed teachers to improve their competence in working with new phases of their programs.

6. Microteaching. Within the past several years this method of preparing teachers has been receiving considerable attention. Its specific application to the preparation of vocational teachers is now being investigated in several teacher education programs.

7. Teacher education staffs have designed and directed studies to determine the employment opportunities in communities, in specific job classifications, and in the States established and emerging occupations. Staffs in teacher education have become more research oriented.

Agricultural Teacher Education

Vocational agriculture teachers in 1967 consisted of approximately 10,000 in high schools and 700 in post-high-school institutions. Broadening the objectives of vocational agriculture, as a result of the Vocational Education Act of 1963, to include off-farm agricultural occupations, and school reorganization programs making vocational education available to youth and adults in previously unserved areas have increased enrollments in most States. The post-high-school program in technical agriculture is comparatively new in most States and the demand for teachers of these programs is great.

A recent national survey indicated that the need for high school agriculture teachers was 5.3 percent of the present total number of teachers, and the need for post-high-school instructors was approximately 113 percent.[2] In general, this indicates a scarcity of qualified teachers in most States. The normal annual turnover of high school agriculture teachers is about 10 percent.

One or more universities in each State (with some exceptions) have been designated to have responsibilities for preparation of teachers of vocational agriculture. In most cases the institution is a land-grant institution with a college of agriculture and an agricultural experiment station. The department of agricultural education may be in the college of agriculture, in the college of education, or jointly administered.

Much change has taken place in recent years in the undergraduate curriculums for prospective vocational agriculture instructors and additional changes are in order. Instructors must be knowledgeable about off-farm agriculture, in addition to farming, because they will be placing students with local off-farm agricultural businesses and industries for employment experience.

Because most instructors of vocational agriculture were prepared to train youth and adults for proficiency in farming, they are now in great need of inservice training related to the employment opportunities in off-farm agriculture. Needed also is the experience and knowledge of occupational competency necessary for job entry and the technical information which should be taught both at the high school and post-high-school levels.

The decrease in emphasis on production agriculture and increased emphasis on employment needs in off-farm agriculture in the undergraduate teacher education curriculum are accompanied by changes in production agriculture technology. More emphasis is given to decisionmaking in farm management and to farm business recordkeeping and analysis. Computer systems of recordkeeping and analysis are being developed by teacher education faculties in cooperation with economists and computer programing specialists.

Business and Office Teacher Education

Prior to the Vocational Education Act of 1963 few major teacher training institutions that had formal programs for the preparation of business teachers would have made a distinction between the program for office teachers and general business teachers. Traditionally, business teacher educators have emphasized three responsibilities of a high school business education and prepared teachers accordingly. These are:

A. *General Education.* Those skills and knowledges needed by all citizens to understand our economic system and their role in that system (i.e., consumer economics, recordkeeping, general business, etc.)

B. *Personal Skills.* Those skills and knowledges needed for more effective written communication (i.e., personal use of typewriting.)

C. *Vocational Skills.* Those skills and knowledges needed by prospective business and office employees (i.e., typewriting, shorthand, bookkeeping, office machines, data processing, etc.)

The background and experiences of the individual teacher educator have often dictated the degree of emphasis placed on each of the above objectives and have also determined which major area(s) received priority.

All of the major teacher training institutions and a number of the smaller ones hold membership in the National Association for Business Teacher Education. These institutions prepare approximately 80 percent of the high school business teachers. There is a wide acceptance by the members of this association concerning the basic program for preparation of business teachers.

At the present time there are an estimated 60,000 business teachers who are products of the system noted above. Traditionally, these teachers have been identified with the field of general education. Many, of course, have also recognized their contributions to occupational preparation. Few, however, prior to 1964, would have said that they were vocational teachers. These teachers usually teach typewriting and one or more of the remaining eight to 12 subjects found in a comprehensive business education program.

Most of these 60,000 business teachers contribute directly or indirectly to the occupational skills needed by high school youth as they enter the world of work. Approximately 40 percent of all high school graduates enter some type of office or business occupation.

Emerging Practices and Innovations

Most of the ideas or procedures that are new or emerging in the field of business and office teacher education have probably been tried in other areas of specialization. However, the following are illustrative of the areas of concern:

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[2] The Center for Vocational and Technical Education. "The Demand for Teachers in Vocational and Technical Education." Columbus, Ohio: March 1967, app. A-3.

1. *Cooperative work-study programs.* Supervised summer (and regular school year) programs are being developed in many teacher training programs that provide actual job experiences for pay plus undergraduate and graduate credit. In one State two summers of supervised work experience will substitute for the 2 years of required work experience.

2. *Master of Arts in Teaching.* In 1966 and again in 1967, four business teacher training departments were granted funds to develop MAT programs for prospective business teachers. One program was specifically designed to prepare data processing teachers. Other schools are using this type of program to encourage business men and women to enter the field of office education.

3. *Business data processing.* Several teacher training programs are preparing people to enter this emerging field as teachers. Summer institutes have been conducted for retraining business teachers to become data processing teachers. New programs are being developed for the preparation of beginning teachers for this new field.

4. *Cooperative project development.* The most significant innovation in business teacher training programs is the developing interest in working together—through institutions or through professional organizations—for the development of clinics, research proposals, and demonstration programs. The following illustrates this cooperative approach to solving inservice and preservice business teacher education problems:

a. *Michigan State's block programs,* involving a number of States and teacher training institutions, provide inservice training for cooperating teachers.

b. *The business education departments* of the Detroit public schools, the University of Michigan, and Wayne State University have developed cooperatively two major research and demonstration proposals that resulted in modifications in preservice and inservice teacher preparation for the two universities and for the public schools involved.

c. *Moonshot in business and office education.* This is a teacher preparation, curriculum demonstration and development project that envisions an impact on business and office education similar to the biological science project. It has been conceived as a project developed through the cooperative efforts of the Research Foundation of the National Business Education Association, Delta Phi Epsilon, and the research center at the Ohio State University. It is currently funded by the U.S. Office of Education as a feasibility study. A major portion of this project will be directed toward preservice and inservice preparation of business and office education teachers.

d. *Guidelines for the preparation of office occupations teachers.* In 1966, teacher education clinics were held throughout the Nation for developing guidelines to use in the preparation of office occupations teachers. Over 1,300 members of the profession were provided with copies of the proposed guidelines. Approximately 350 business teacher educators participated in developing the guidelines. This project represents the first time that the business education profession has taken a systematic look at the preparation of teachers for their field.

These innovations have been directly or indirectly stimulated by funds made available for the first time to business and office education by the Vocational Education Act of 1963.

Distributive Teacher Education

The term distributive education identifies a program of instruction for occupations in the field of marketing and distribution, conducted in high schools, post-secondary schools, and adult schools. Distributive education is designed to meet the occupational training needs of four major groups: high school age youth, post-secondary-school students, adult workers, and youth with special training needs.

Preparation of teachers of distribution or marketing can be traced to specific instances of formalized training during the period 1900–1910. However, institutionalized programs of distributive teacher education did not emerge until the mid-1930's, when they were stimulated by the George-Deen Act. Most teacher education was of the summer institute and workshop variety until after World War II, and much of this instruction was provided by State supervisors. Teacher educators attached to institutions of higher learning were in small numbers which increased slowly until the mid-1950's. Since then greater numbers of institutions have designated personnel to perform this function. During the 1966–67 school year, 68 persons in 56 institutions and one State department were listed as distributive teacher educators by the U.S. Office of Education Directory. Only about half of these people, however, devote full time to distributive teacher education.

The Council for Distributive Teacher Education compiles a directory each year of institutions providing distributive teacher education, which describes the level and nature of program offerings in the institution.

Emerging Practices and Innovations

The pressing demand for distributive education teachers has not stimulated many innovative practices in teacher preparation. This may be due, in part, to few significant changes in certification requirements by State agencies. A greater influence, however, may be that individuals who possess the potential for distributive teaching are also actively recruited by business.

Five emerging practices which contribute to attracting and advancing distributive teachers are:

1. The development of special facilities for distributive education. The first building constructed especially for use in distributive education at an institution of higher learning was dedicated in the spring of 1967 at Western Michigan University. The facility incorporates two distributive education programs (Food Merchandising and Petroleum Merchandising) and distributive teacher education. This combination of marketing industry programs and teacher education should enhance the possibilities of identifying and preparing distributive teachers.

2. The expansion of postgraduate teaching internship programs. The undergraduate program has traditionally served to prepare high school distributive teachers. Individuals who complete a baccalaureate and then decide to enter teaching can complete the certification requirements as well as gain credit for an advanced degree through internship programs. This innovation is most frequently used in the preparation of post-secondary teachers.

The primary advantage of the internship program is that the number of practitioner courses in the teacher education curriculum can be reduced. The internship experience—at least one full semester in length—permits the potential teacher to assume responsibility for teaching immediately and provides experience through a full cycle of teaching. Full-time assignment to a school allows observations and experiences in many areas related to vocational teaching and is lengthy enough to accomplish planning, development, and fruition of educational strategy in a broader sense. Successful internship programs must include: (1) A team of master teachers and staff from the local school to serve as resource persons and consultants to the intern, and (2) a carefully planned schedule of review and critique directed by the institutional distributive teacher educator.

3. Leadership development institutes. Under the regional sponsorship of State supervisors and teacher educators there has developed in the past 3 years a nationwide plan for distributive education leadership development institutes. Initiated at the University of Wisconsin in the spring of 1965 with a pilot group of 20 experienced teachers from nine States, the program was taken over by the National Center for Studies in Vocational and Technical Education at Columbus, Ohio, in the fall of 1965. A training session at the National Center for selected regional personnel generated three additional leadership institutes for 1967. The National Center is providing coordinating support for institutes that are being planned for the coming years. All of these institutes have been supported by State or local effort. Through these institutes, emerging leaders in distributive education can be identified and aided in growth toward greater responsibility.

4. Summer programs supported by the Office of Education. A limited number of summer institutes, workshops, and conferences have been provided for curriculum development, occupational development, materials development, and the preparation of teachers for distributive education. These programs have been limited in the number of participants and have reached only a few people in any individual State. Too frequently the contributions of these institutes and workshops are limited to the direct participants because of limitations on the dissemination of materials and ideas to other distributive personnel in the State or region.

5. The expansion of field study or occupational experience courses under the direction of teacher education institutions. The practice of having directed or supervised work as a part of teacher education to provide occupational experience for distributive teachers is not new. The expansion of these opportunities at varying levels is, however, a desirable innovation and should be continued. The new teacher or the teacher who is moving from high school to post-secondary teaching needs the opportunity to have a planned occupational experience at the level and in the area most appropriate to his needs. These experiences should be under the direction and guidance of the teacher educator and should be given recognition through course credit.

Home Economics Teacher Education

The number of institutions of higher education engaged in preparation of home economics teachers gives some indication of the diversity in programs, the complexity of various developments, and the potential.

About 450 institutions give bachelor's degrees in home economics, and most of these prepare teachers. In addition, each of the 50 States includes a program of inservice education as a part of the State supervisory program. Some States employ persons with specialization in some aspects of teacher education to assist with the inservice teacher education program.

The teacher education program includes laboratory experiences and practicums, as well as theory, in child development, family relationships, foods and nutrition, home management and family economics, housing, and textiles and clothing. For the past 10 years there has been a trend towards providing opportunity for greater depth in one or more areas and a strengthening of courses which have the behavioral sciences as root disciplines.

Professional education for prospective home economics teachers has included courses in curriculum and methods in home economics education, methods of teaching adults, student teaching in vocationally approved home economics departments, and professional education in such areas as educational psychology and foundations of education. A strength in the program has come from the prospective teachers' understanding of human development which is included in subject matter courses in child development.

Expansion

The Vocational Education Act of 1963 stimulated interest in an emphasis on home economics courses and programs designed to prepare for gainful employment. As a result some efforts were made to distinguish between teacher education programs to prepare teachers of homemaking and wage earning. There are, however, many similarities in the competencies needed by teachers for each aspect of the home economics programs, and it is the consensus of teacher educators in the field that although teacher education programs need to be revised and updated to improve the quality of teaching in both aspects, separate programs would be more detrimental than helpful. This conviction is based partly on an analysis of common competencies needed and partly upon the movement of teachers from one kind of program to another. In some comprehensive high schools and area schools, a single individual may teach both aspects of the program.

Teacher education in the field of home economics includes preparing teachers for programs designed to develop ability in the occupation of homemaking and out-of-the-home occupations utilizing skills and knowledge of home economics. To fully contribute to the goals of vocation and technical education, home economics teachers will also be prepared to assist youth in their orientation to the world of work; assist women in coping with the responsibilities of both homemaking and a job outside the home; and contribute to the development of social and managerial skills needed by all successful workers.

Development of Structure for Content of Home Economics Education

At a research seminar sponsored jointly by Iowa State University and the U.S. Office of Education in 1962, the task of developing a structure for the content of home economics education was defined. The initial development of the content intended for preservice education was achieved at a seminar at the University of Nevada in 1964. At that seminar, leadership was provided by home economics specialists from the U.S. Office of Education. Further refinement of this content and the addition of content for continuing and advanced professional education were accomplished at a seminar at the University of Nebraska in 1966, funded by the U.S. Office of Education.

In the development of this structure, the behaviors (competencies) of effective teachers were observed, synthesized, and accepted as the organizing structure for the content. The instructors observed were teaching homemaking, wage-earning occupations, or courses designed to develop personal adequacy and social competence needed for performance as a worker and a citizen.

Research

Since 1959 at least 75 studies related to home economics teacher education have been made, but, with very few exceptions, these were not directed specifically to questions related to teachers of wage-earning programs. However, many of the studies have implications for the preparation of teachers for wage-earning instruction.

Data have been collected about work experiences of secondary teachers in connection with a study of employment opportunities. Approximately 85 percent of the 70 teachers surveyed had work experience other than teaching.

Curriculum Materials

For many years home economics educators have used successfully the procedure involving teachers in the development of curriculum guides. This procedure has been employed both as a vehicle for inservice education and as a means of developing materials that will be meaningful to teachers.

Improvement in Teacher Education Programs Related to Teaching the Disadvantaged

Great strides have been made in home economics teacher education programs in preparing teachers to accept and to work with people from diverse social, ethnic, racial, and economic groups. This improvement, for the most part, has been brought about through an orderly gradual change in emphasis and experiences, rather than through any dramatic changes in the preservice curriculum. In addition, universities have included in their regularly scheduled summer programs courses on teaching the mentally retarded and the physically handicapped.

Technical Teacher Education

A highly trained, experienced (technically competent) instructional staff is the most important element of a successful program producing qualified technicians. The procurement of qualified instructors is probably more difficult in this field than in other areas of vocational education. Indications are that this condition will continue in the foreseeable future and probably limit the expansion of much needed technical programs. Few institutions of higher education prepare technical instructors; school and college officials, therefore, are required to recruit directly from industry. A great many technical instructors acquire their educational qualifications in professional schools in areas of intense specialization, and this background is supplemented by more specialized experience in business or industry.

In order to start technical programs, many administrators use members of their present staff who are teaching skills in a related technical field; then they upgrade these skills in short, intensified courses. A number of these courses have been available as institutes, funded through section 4(c) of the Vocational Education Act of 1963. Others have been financed by State departments of education or by the National Science Foundation.

Trade and Industrial Teacher Education

The majority of trade and industrial teachers begin their classroom instruction prior to, or concurrent with, their teacher education. They do not have their teacher preparation completed before entering the classroom, as is the case with other teachers. The subjects they teach range from the trades, industrial occupations, technical occupations, health occupations, public service, personnel service, to industrial supervision. Becoming a teacher is a redirection of their working lives.

Two principles concerned with the selection and training of teachers have been established: (1) That the teacher of trade and industrial subjects be subject matter competent, and (2) that he have teacher education experiences that will help him transfer his subject matter skills and knowledges to his students. On the surface this may appear to be the same for all teachers, but there are two basic differences: (1) Trade and industrial teachers obtain their subject matter competency by following their occupations, and (2) the majority obtain their teacher education while they are employed as teachers rather than through the regular curriculum.

A common philosophical bent exists among the States concerning the background a potential teacher should have and the necessity for professional teacher preparation. Although methods for professional instruction may differ between States, there is consistency in requiring, for individuals who are becoming trade and industrial teachers, a number of years of successful work experience in the advanced aspects of the occupation they plan to teach, and in the scope and content of professional training.

The concept of adequate successful work experience is deep rooted and is valid. It is through successful work experience that a person learns the skill, technical knowledge, and mores of the occupation he will be teaching. It provides the basis of instructional content. But work experience gives more than subject matter; it gives a teacher the insight into the occupational environment for which he is training his students and assists him in relating the occupational requirements to his instruction. Thus, instruction in trade and industrial programs is occupationally centered.

The fact that many of the teachers in trade and industrial education go directly into teaching from industry and thus take their teacher training concurrently with their teaching employment is a result of how trade and industrial programs are developed in our schools. These programs come about because of occupational training needs identified within a community, and these needs change as the occupations change. Trade and industrial education is not static. Since it consists of programs that are constantly changing, trade and industrial teachers must be recruited from industry when programs are initiated, and cannot be stockpiled, as is the case in static school programs.

Trade and industrial teacher educational programs must be designed to change with the requirements of the schools. Therefore, a dynamic program of industrial education must have a dynamic teacher education program. The scope of the present trade and industrial teacher education program includes both preservice and inservice programs for both full-time and part-time teachers.

The challenge for maintaining and improving the teacher education program has been met by continuing effort throughout the years. Revision and adaptation of course content have kept pace steadily with new educational processes. This flexibility has permitted the development of unique programs for trade and technical teacher education.

PREPARATION OF TEACHER EDUCATORS

Vocational teachers are prepared in undergraduate and graduate collegiate programs and/or through a variety of informal and formal inservice teacher education programs. Irrespective of organizational patterns used for teacher education, a common need for all effective programs is the well-qualified teacher educator.

At the present time neither State departments of education nor teacher education institutions are able to fill existing teacher educator positions, and any expansion or improvement in teacher education will demand a greatly increased number of teacher educators.

SPECIAL STUDIES OF INSTRUCTOR CHARACTERISTICS

Few depth studies have ever been made of the characteristics of vocational teachers. National data have provided information about the numbers of teachers, and to some extent other breakdowns, to show relationships between the full-time program and the part-time program. Research studies now underway may provide further insight into the characteristics of the instructors in vocational education.

Some of the characteristics of vocational teachers described in this report are based on recent studies.

Trade and Technical Teachers—California [3]

Persons credentialed to teach full time in California are employed in three principal types of institutions—junior colleges, high schools, and correctional institutions. Institutional employment proved to be a discriminating factor in many comparisons.

TABLE 73.—*Distribution of teachers by type of institution*

Type of institution	Number of teachers	Percentage
Junior college	1, 042	65. 7
High school	226	14. 2
Correctional	167	10. 5
Other (junior high school, skill centers, etc.).	115	7. 2
No answer	37	2. 4
Total	1, 587	100. 0

Table 73 indicates that approximately two-thirds of the teachers are employed in junior colleges. When compared with high school and correctional teachers, junior college instructors show the highest level of formal education, report the highest salaries and the greatest amount of additional income from school-related sources. Many of the women teachers are employed in junior colleges. The highest percentages of memberships in professional organizations at the national, State, and local levels were reported by junior college instructors.

High school teachers tend to be younger, have much less work experience, teach predominately in metropolitan areas, and begin teaching with less formal education than junior college instructors. However, they report the greatest educational advancement while teaching. The fact that they make more additional nonschool income helps offset the fact that they earn less than junior college teachers. High school teachers generally have high percentages of membership in professional organizations at the national, State, and local levels.

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[3] Melvin L. Barlow and Bruce Reinhart. "Profiles of Trade and Technical Teachers, 1966–67." Sacramento: California State Department of Education, 1967. (The population of the California study was limited to full-time teachers who were not involved in supervision or administration. Full-time teachers with additional responsibilities in supervision, such as department chairmen, were considered to be within the parameters of the study.)

As indicated in table 74, over half (55.3 percent) of the teachers are employed in large towns and cities which range in population from 50,000 to 500,000 or more. Another 13 percent are teaching in suburbs of less than 50,000 people. Approximately one-quarter (25.9 percent) indicate that they are teaching in small independent towns which are not part of a metropolitan area.

TABLE 74.—*Distribution of teachers by type and population of school community*

Type of Community	Number of teachers	Percentage
Small independent town (not part of a metropolis):		
Less than 2, 500	42	2. 6
2, 500 to 9, 999	103	6. 5
10, 000 to 49, 999	266	16. 8
Subtotal	411	25. 9
Suburb (part of a metropolis):		
Less than 2, 500	7	. 4
2, 500 to 9, 999	29	1. 8
10, 000 to 49, 999	171	10. 8
Subtotal	207	13. 0
Large town and cities:		
50, 000 to 99, 999	240	15. 1
100, 000 to 499, 999	286	18. 1
500, 000 or more	351	22. 1
Subtotal	877	55. 3
No answer	92	5. 8
Total	1, 587	100. 0

TABLE 75.—*Years of full-time work experience of teachers prior to teaching*

Years	Number	Percentage
1 to 4	85	5. 3
5 to 9	400	25. 2
10 to 14	[1] 398	25. 1
15 to 19	288	18. 1
20 to 24	215	13. 5
25 to 29	112	7. 1
30 to 34	36	2. 3
35 to 39	6	. 4
40 to 44	2	. 1
No answer	46	. 9
Total	1, 587	100. 0

[1] The median number of years of full-time work experience prior to teaching is 13.9 years.

Many teachers have had extensive careers prior to teaching. Table 75 indicates that 24.3 percent have had 20 or more years of work experience; 43.2 percent, 10 to 19 years; 30.5 percent have had less than 10 years of previous career experience. The median for the entire sample was 13.9 years.

Teachers were asked to identify their courses in terms of the Course Title Code utilized by the Bureau of Industrial Education, California State Department of Education. Two-thirds of the respondents were teaching in only 35 of the Course Title Code areas. These areas were grouped into 14 major categories, and are shown in table 76. The remaining one-third teach in courses represented by 92 Course Title Codes, but in all cases the number of teachers represented by each title was less than 1 percent of the overall population.

Nearly 90 percent of the teachers credentialed for full-time teaching are teaching full time. About 8 percent are teaching part time, with or without school-related employment.

TABLE 76.—*Major subject area categories of trade and technical teachers* [1]

Subject area categories	Number	Percentage
Practical nursing	224	14. 0
Electrical-electronic	163	10. 5
Automotive	151	9. 5
Machine shop	91	5. 8
Drafting	79	5. 0
Cosmetology	78	5. 0
Carpentry	59	3. 7
Peace officer	56	3. 5
Dental	51	3. 2
Welding	33	2. 1
Medical	21	1. 3
Radio-TV	21	1. 3
Photography	19	1. 2
Sheet metal	16	1. 0

[1] Subject matter areas involving less than 1 percent of instructors are not shown.

Two-thirds of the teachers have been teaching less than 10 years. Over 40 percent have been teaching less than 5 years. The median number of years of full-time teaching experience is 6.7 years. This is indicative of the large number of teachers who have entered the program in recent years. Another indication of growth of trade and technical education in California is that 21.8 percent of the teachers are in the process of completing requirements for long-term credentials—and are thus still involved in the transition from industry to teaching.

TABLE 77.—*Level of formal educational achievement of teachers prior to teaching and current (1967) levels of achievement*

Educational achievement	Prior		Current	
	Number	Percent	Number	Percent
High school diploma	348	21. 9	82	5. 1
Junior college courses	244	15. 4	219	13. 8
Junior college degree	125	7. 9	88	5. 5
RN	72	4. 5	39	2. 5
College or university courses (extension classes not included)	252	15. 9	411	25. 9
Bachelor's degree	440	27. 7	466	29. 4
Master's degree	87	5. 5	235	14. 8
Doctoral degree	11	. 7	13	. 8
No answer	8	. 5	34	2. 2
Total	1, 587	100. 0	1, 587	100. 0

Trade and technical teachers must qualify both educationally and vocationally. They must qualify at the entrance level of their profession by meeting the academic standards for State credentials. Salary schedules of local school districts make additional educational achievement desirable, if not mandatory. Table 77 indicates the educational level at which California teachers entered teaching, and their current (1967) educational achievement.

The educational profile of the trade and technical teacher has been changing significantly. Marked changes in the educational level of new teachers is shown by comparisons of recent entrant surveys in California. Barlow and Moore studied 578 teachers entering trade and industrial education from 1945 to 1950.[4] David Allen surveyed 1,011 teachers who received their first credential during the period July 1955 to June 1962.[5] Comparison of the three studies (table 78) shows an obvious trend toward a rising level of formal education.

For example, Barlow and Moore found that 59.9 percent of their sample had no more than a high school diploma, Allen found that the figure had been reduced to 38.7 percent, and Barlow and Reinhart found that the figure had been further reduced to 15.9 percent. At the same time the number of teachers with academic degrees was being increased.

When the educationally mobile teachers were compared with the educationally stable in the Barlow-Reinhart study, it was discovered that the educationally mobile are entering the teaching force younger, with less work experience, and with more formal education. They tend to be slightly older than their stable counterparts, undertake more school-related responsibilities, and join more organizations.

Trade and technical teachers are part of the organizational society. Ninety-eight percent belong to one or more organizations. The median number is 5.6 memberships in organizations per teacher. Teachers belong to local organizations most frequently, and national organizations the least. More than 94 percent have memberships in local level organizations, 81.7 percent memberships in State organizations, and 47.4 percent memberships in national organizations.

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[4] Melvin L. Barlow and Gail E. Moore. "A Study of Teachers Entering Trade and Industrial Education." Los Angeles: University of California, Division of Vocational Education, 1953.

[5] David Allen. "A Study of Trade and Technical Teachers Who Received First Credentials, July 1955–June 1962." Los Angeles: University of California, Division of Vocational Education, 1963.

TABLE 78.—*Formal education of "recent entrants" at the start of teaching*

Level of formal education	1945–50		1955–62		1966–67	
	Number	Percent	Number	Percent	Number	Percent
High school diploma	336	59. 9	391	38. 7	95	15. 9
Junior college courses	(1)	....	65	6. 4	112	18. 8
Junior college degree	(1)	....	76	7. 5	56	9. 4
RN	(1)	....	55	5. 7	38	6. 4
University courses (extension not included)	115	19. 9	91	9. 0	85	14. 2
Bachelor's degree	93	16. 1	245	24. 2	175	29. 3
Master's degree	28	4. 8	82	8. 1	29	4. 9
Doctoral degree	1	. 2	4	. 4	7	1. 2

[1] Data not collected.

Three organizations dominate the membership at the national level. The National Education Association heads the list with 21.6 percent, the American Vocational Association follows closely with 20.9 percent, and the American Industrial Arts Association ranks third with 6.3 percent.

The California Teachers Association heads the list of State organizations with 48.1 percent of the teachers. Other organizations with relatively large representations are the California Industrial Education Association with 38.6 percent, the California Junior College Faculty Association with 27.7 percent, and the California Vocational Association with 11.7 percent. At all levels trade and technical teachers are involved in the organizations of the teaching profession more frequently than any other type.

Trade and Industrial Teachers—Ohio [6]

The purpose of the Ohio study was to evaluate instruction and learning in Ohio's trade and industrial education programs. Three of seven specific areas of inquiry dealt with (1) the teacher, his background and preparation, (2) the local trade and industrial supervisor's ratings of teachers, and (3) self-perceptions and behavior characteristics of trade and industrial teachers.

General information about the background and experiences of 331 teachers is presented in table 79. The teachers' mean age is 44 years, with a range of 24–69. The average teacher has approximately 15 years of industrial experience and 2½ years of college to prepare himself for classroom instruction. The Ohio teachers have about 9 years of teaching experience in their trade area and about 11 years of total teaching experience. One-third of the teachers are spending an average of 17 hours per week on a second job. Sixty percent of the teachers surveyed had no college degree, 25 precent have earned the bachelor's degree, 14 percent have earned the master's degree, and two teachers hold the doctor's degree.

The Ohio study found that local supervisors' ratings of teachers are significant indicators of quality learning situations. Local supervisors rated those teachers whose students achieved at a high level significantly higher than those teachers whose students did not achieve at a high level.

TABLE 79.—*Trait profile for trade and industrial education teachers' background and preparation*

Trait	N	Mean	Range
Age of teachers	331	44. 1	24–69
Highest grade level completed by teachers (years of schooling)	330	14. 4	11–19
Years of industrial experience	331	14. 8	0–44
Years of supervisory experience	193	7. 8	1–34
Average hours of work per week on a part-time job	97	17. 3	1–55
Years of teaching experience in trade	330	8. 7	0–40
Total years of teaching experience	330	11. 0	0–45
Degrees held—None, 199; B.S., 82; M.A., 47; Ph. D., 2.			
Teachers' vocational certification—Temporary, 145; provisional, 77; professional, 53; permanent, 55.			
Relation of teachers' outside job to teaching—No outside job, 194; very close, 79; close, 10; not related, 15.			

Since the supervisor's ratings of teachers were found to be valid indicators of quality programs, the trait profile for 346 Ohio teachers is reported in table 80. The supervisors' ratings of teacher traits were made on the basis of a five-point scale. The teacher's knowledge of work was the factor rated highest by the supervisors, while scholarship was rated lowest. Other factors rated relatively high were the teachers' cooperation and dependability, their public relation ability, and their practical judgment. The teachers' adaptability and school management were rated lower.

TABLE 80.—*Trait profile for trade and industrial education teachers by local supervisors' rating*

Teachers' traits rated by local supervisors (N-346)	Mean rating (1–5)
Knowledge of work	4. 40
Cooperation and dependability	3. 96
Public relations	3. 94
Practical judgment	3. 93
Ability to instruct and present ideas	3. 89
Overall performance rating	3. 86
Personality	3. 82
School management	3. 79
Adaptability	3. 77
Scholarship	3. 72

The self-perceptions and behavior characteristics of the Ohio teachers were evaluated by the Opinion, Attitude, and Interest Survey (OASIS), an instrument designed to measure how the individual perceives himself. Teacher personality, in terms of self-concept, was found to be an indicator of how students will achieve. Self-perception data for the teachers are presented in table 81.

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[6] Robert W. Ullman and Ralph W. Ingersoll. "Factors Contributing to Student Achievement." Columbus: Ohio State Department of Education, Division of Vocational Education. (Not dated, but includes ratings for 1964.)

Analysis of the data for 328 teachers indicates that they possess a driving force to succeed that is well above the average. This is evidenced by a high achiever-personality score coupled with a somewhat lower intellectual quality score. The creative personality score is relatviely low. The emotional and social adjustment scales suggest that the group is stable. The major expressed interest of this group is in biological science, followed at a distance by physical science, business, social science, and the humanities.

TABLE 81.—*Trait profile for trade and industrial education teachers on the OASIS scales*

Trait	Mean score (N–328)
Biological science interest	54. 60
Emotional adjustment	54. 19
Achiever personality	54. 14
Social adjustment	49. 22
Physical science interest	47. 89
Creative personality	47. 49
Intellectual quality	46. 96
Business interest	44. 11
Social science interest	43. 11
Humanities interest	38. 89
Masculine orientation	38. 12

SUMMARY AND IMPLICATIONS

Teacher education is one of the essential elements of the expansion of vocational education. Complexities of the future program include commitments for vocational education far beyond any previous experience. These commitments call for a much higher degree of sophistication in all facets of vocational education, and in relationships in the expanded environment. One of the key figures in this environment is the teacher.

Teacher Education and Change

Contemporary teacher education views the competent teacher from a standpoint having three major aspects: (1) Educational preparation in general; (2) technical (or subject matter) competency; and (3) command of the practical application of the theory of teaching and learning.

Emerging practices in teacher education show a positive movement toward increased flexibility with the maximum attention to individual teacher needs, in an environment of modern instructional media. Extension of teacher education in the new areas of in-service education and special programs for teachers of special groups are among the new challenges facing teacher education.

Depth studies of teacher characteristics have not been made with any degree of regularity, and consequently description of the vocational teacher in the Nation is not possible. Two recent State studies, one in Ohio and one in California, have inquired into the backgrounds and attitudes of trade and technical teachers. These studies have shown the nature of the characteristics of contemporary teachers. But, nationwide conclusions can scarcely be drawn from such samples.

The so-called traditional areas of teacher education recognize an expanded responsibility and appear to be ready, willing, and able to meet the requirements of the future. But the major adjustments to be made are not entirely to be found in teacher education. Implications of the review of teacher education define in broad outlines the future needs.

Implications—The Program of the Future

Adjustments in teacher education must take into account at least four major elements that have a significant bearing on the development of vocational education.

1. Sources of Vocational Teachers

In some areas of vocational education, prospective teachers are taught in a baccalaureate program the skills and knowledges appropriate for the occupational area; this background is frequently supplemented by some kind of work experience in the occupational area or in a related field. Teacher education programs of this type may need to search for persons who have already become established in the occupational field and encourage them to enter the field of teaching.

In other areas of vocational education, teachers are selected from an occupational area(s) and are certified for service by the State upon completion of the professional education requirements or on a postponement of requirements basis. The major criterion for selection is occupational competency based upon an analysis of the person's work experience, or upon completion of a comprehensive occupational examination, or both. In recent years, projects have combined the work experience with a baccalaureate degree program.

Irrespective of the arrangements for selecting teachers, it is imperative that any present system be modified in order to enlarge the source area from which teachers are selected. It is obvious that such changes will require a comprehensive review of State certification practices. An anticipated 150 percent increase in the number of teachers needed during the next decade makes it mandatory that States consider the solution of this problem a major priority.

2. Flexibility in State Certification

Increasing the scope of vocational education to include educational needs of a variety of disadvantaged groups (poverty, hard core unemployment, and the like), and extending the range of occupations for which vocational education is provided, will most certainly involve flexibility in teacher certification arrangements. Such flexibility can be achieved without damaging desirable standards of excellence. Principles of teacher certification will need to be reinterpreted to meet the certification needs of a variety of new teachers. In short, the social and economic need for vocational education cannot be blocked by rigid certification requirements that limit the field of choice of potential instructors.

3. Inservice Teacher Education

Providing inservice education for vocational education teachers is one of the formidable problems facing vocational education in the future. Enrollment growth of vocational education, expansion in the numbers of occupations and groups to be served, and an environment of social, economic, and technological unrest and change all point to an imperative need for teacher upgrading in order that teachers may cope with the many new situations presented in the classroom, laboratory, and shop.

Mindful of the importance of strong national leadership in the area of inservice education, the major responsibility for inservice education, nevertheless, rests with the States. Programs to be provided for teachers (also administrators and other education management personnel) include a variety of conferences, workshops, seminars, courses, projects, and other organized efforts covering a variety of subjects offered throughout the year and almost around the clock. The motivating force behind an imaginative inservice education program is the State office responsible for vocational education. The program should follow a constructive Master Plan and should become a part of the regular effort in teacher education; it should not be viewed as a crash approach.

4. Selection and Upgrading of Teacher Educators

One item that seems to be forever getting lost is concern for the plight of persons who carry the burden of quality in teacher education—the group called "teacher educators." This group, always in short supply, plays a key role in the general development of vocational education in the Nation. It is not possible to provide at this point a prescription with specific directions to either approach or to solve immediate problems of the teacher educator. This is a problem of national concern requiring massive effort at the Federal level.

Chapter 7

Vocational Guidance

A basic tenet of American democracy is the freedom of occupational choice. The youth of yesteryear had less difficulty in making a choice than the youth of today because there were fewer occupations, it was easier to get first-hand occupational information, entry educational requirements were either lacking or simple to meet, and once an occupation was selected the possibilities of remaining in it for a life time were reasonably good.

Difficulties were beginning to appear as industrialization was accelerated and social legislation was enacted. In the early 1900's the need for formal vocational guidance was recognized, and Frank Parsons authored a text entitled "Choosing a Vocation," which gave birth to the vocational guidance movement.

If the need for vocational guidance was present in 1909, it is even more urgent today in a highly technological society which lists more than 35,000 occupational titles and which holds the promise of hundreds of new and still unnamed occupations.

The ability to assess personal qualifications, interests, and mental and physical abilities in relation to possible ocupations is often beyond the capabilities of those who have the most difficult time succeeding in school and getting employment. Not only these youth and adults, but even the better qualified intellectually and mechanically have difficulty in assessing their interests and abilities against possible job opportunities.

To make such decisions, help is needed, and for such help, youth and adults should be able to turn to well-qualified vocational guidance counselors.

THE PRESENT STATUS OF VOCATIONAL GUIDANCE

With the advent of Sputnik and the accompanying hue and cry for academic excellence and the search for academically able students, academic guidance services were expanded rapidly with the assistance of the National Defense Education Act, but only cursory attention was given to the development of quality vocational guidance services. As a result of these efforts, almost nine out of every 10 high schools in the United States provide academic counseling.

In contrast, the occupationally oriented student gets little or no attention. Although he can expect to find vocational guidance service in half the high schools, it is inadequate in most cases or extra duty imposed upon an already overburdened academic counselor whose interest and professional preparation are oftentimes foreign to vocational counseling. Only a minority of the high school graduates who do not go on to college report receiving any vocational guidance. Interest and aptitude tests so essential to vocational counseling are not typically used in high school.[1]

In 1966, only half of the States were employing vocational education funds to support at least one person on the State staff to exercise specific responsibility for vocational guidance and counseling. Eight States supported more than one such position (see table 82).

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[1] J. J. Kaufman, C. J. Schaefer, et al., "The Role of the Secondary School in the Preparation of Youth for Employment," Institute for Research on Human Resources (The Pennsylvania State University Press, 1967).

Table 82.—*Guidance personnel, at the State level, supported by vocational and technical education funds, fiscal year 1966*

State or Territory	Number of State guidance personnel [1]
Alabama	1
Colorado	1
Florida	1
Georgia	3
Illinois	1
Iowa	1
Louisiana	2
Maryland	1
Massachusetts	1
Minnesota	2
Mississippi	1
Missouri	2
Nebraska	1
Nevada	1
New Hampshire	1
New York	2
North Carolina	7½
Ohio	2
Oklahoma	2
Tennessee	1
Vermont	1
Wisconsin	1
Wyoming	½
Guam	1
Puerto Rico	7
Total	45

[1] All other States reported no guidance personnel on State staff.

The number of local-system guidance administrators reimbursed wholly or partially by vocational education funds rose from 874 in 1965 to 3,955 in 1966. The increase seems to indicate real progress; however, the reported figures do not differentiate between academic and vocational counseling and there is no way to assess accurately the real increase in vocational guidance counselors.

Table 83.—*Comparison of total expenditures for vocational guidance and total expenditures for vocational education, fiscal years 1961–66* [1]

	Total expenditures		
	Vocational education	Vocational guidance	Percent
1966	$799, 894, 562	$5, 315, 621	0. 66
1965	604, 645, 727	3, 094, 832	. 51
1964	332, 785, 114	2, 204, 891	. 66
1963	308, 899, 618	1, 765, 371	. 57
1962	283, 948, 446	1, 532, 114	. 54
1961	254, 073, 395	1, 608, 170	. 63

[1] Data obtained from the Division of Vocational and Technical Education.

As of September 1967, there was one staff member in the Division of Vocational and Technical Education responsible for vocational guidance.

In fiscal year 1966, 18 States and two Territories reported no expenditures of either Federal, State, or local vocational education funds for vocational guidance. Total expenditures are shown in table 83. In the same year less than 1 percent of Federal funds for vocational education was used for vocational guidance (see table 84). The amounts expended on both the Federal and State-local levels have risen steadily. The percentage increase from 1964 to 1966 was 141. On the other hand, as a percent of the total Federal expenditures for vocational education, this represented a decline from 1964 of 0.26 percent.

Table 85 indicates the relationship between Federal expenditures and State and local expenditures for vocational guidance. The State and local expenditures indicated here and in table 84 as well represent only matching funds reported for purposes of meeting requirements. Other funds not reported may have been spent at the local level.

Statistically the number of counselors is increasing, and in the 8-year period from 1958 to 1965, the USOE reports show that the ratio of counselors to secondary students has improved from 1:1,000 to 1:510. This is

Table 84.—*Comparison of total expenditures for vocational guidance and total expenditures for vocational education, by source of funds, fiscal years 1961–66* [1]

	Expenditures—Federal			Expenditures—State and local		
	Vocational education	Vocational guidance	Percent	Vocational education	Vocational guidance	Percent
1966	$233, 793, 671	$1, 827, 218	0. 78	$566, 100, 888	$3, 488, 403	0. 62
1965	156, 936, 015	1, 294, 248	. 83	447, 709, 712	1, 800, 584	. 40
1964	55, 026, 875	573, 272	1. 04	277, 758, 240	1, 631, 619	. 59
1963	54, 581, 887	458, 996	. 84	254, 315, 731	1, 306, 375	. 51
1962	51, 438, 074	422, 923	. 82	232, 510, 372	1, 109, 191	. 48
1961	48, 009, 534	399, 742	. 83	206, 063, 861	1, 208, 428	. 59

[1] Data obtained from the Division of Vocational and Technical Education.

TABLE 85.—*Relationship between the Federal and the State and local expenditures for vocational guidance, fiscal years 1961–66* [1]

	Federal expenditures (percent)	State and local expenditures (percent)
1966	34	66
1965	42	58
1964	26	74
1963	26	74
1962	28	72
1961	25	75

[1] Data obtained from the Division of Vocational and Technical Education.

remarkable progress in a relatively short time, brought about essentially through NDEA funds. However, with all this progress, no data are available to show a significant increase in vocational guidance for the occupationally oriented student. In fact, indications are that very little improvement has been made in this area. The distorted emphasis in favor of academic counseling stems perhaps from the concern of the NDEA for high-ability students. There is also the feeling among professionals that counseling is counseling and that, "There is no difference in philosophy and attitude in counseling for the gifted and counseling for the average or retarded, but somewhat different kinds of knowledge and skill are required." [2] This may be so, professionally, but again evidence does not indicate that the educational counselor is providing vocational guidance to the nonacademically oriented students or that the skills and knowledge required of a counselor to function adequately in vocational counseling are being incorporated in training programs for educational counselors or are required of such counselors.

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[2] Leona E. Tyler. "The National Defense Counseling and Guidance Training Institutes Program," OE-25011, Bulletin 1960, No. 31. Washington: U.S. Government Printing Office, p. 78.

RESOURCES AVAILABLE TO VOCATIONAL GUIDANCE

A well-organized and conducted program of vocational guidance will utilize every resource and agency, public and private, which can contribute to the overall effectiveness and efficiency of the program.

In order to facilitate cooperation with vocational education and with vocational guidance counselors, the Bureau of Employment Security of the Department of Labor has been improving its tools of analysis.

In conjunction with the Bureau of Labor Statistics, the Bureau Employment Security has been making pilot surveys of the extent and nature of job vacancies. Such data will fill one of the more conspicuous gaps in the Nation's information about the labor market. This information, supplementing BES operating data on job openings, should be particularly valuable to school administrators in planning their occupational course offerings.

At the end of 1965, the third edition of the "Dictionary of Occupational Titles" emerged as the result of a 15-year study. With its new stress on occupational families, the Dictionary should be of special value to vocational educators and counselors. A revised version of the Department of Labor's "Handbook on Job Market Research Methods—Area Skill Survey" and "Guides to Local Occupational Information" is also available.

The Office of Manpower Policy, Evaluation, and Research, in cooperation with the Bureau of Employment Security and the Division of Comprehensive and Vocational Education Research, has given research contracts to Temple University and the University of Colorado to develop improved methodology for forecasting manpower requirements. These reports have been received and are being studied.

The Office of Manpower Policy, Evaluation, and Research and the Bureau of Employment Security are also working with vocational educators on a new research project to be carried out in Milwaukee, Wis. This pilot project seeks to develop new and innovational approaches to collecting and analyzing occupational data. Attention will be focused on methods for reducing costs and time requirements in conducting surveys.

The Bureau of Employment Security reports that its long-range job market information program will include the following elements:

(1) A current inventory of employment, by occupation, to be conducted in each of the 150 major labor market areas at least once every 2 years,

(2) The development of occupational projections for each of the 150 major labor areas on a regular recurring basis,

(3) Keeping abreast of changing occupational requirements and problems on a recurring basis,

(4) Use of the findings of counseling and guidance material by USES and State ES agencies, as

well as in planning and developing training programs under the Vocational Education Act, MDTA, and other legislation.

The U.S. Office of Education has developed a reporting taxonomy which relates education codes to the code of the "Dictionary of Occupational Titles" and thus facilitates curriculum and course planning at the State and local levels. National summary data on the specific types of vocational training being offered and the number completing training are also being compiled. These data will be issued annually.

No attempt has been made here to provide an exhaustive listing of resources either public or private. Rather the purpose has been to point out that agencies other than the Division of Vocational and Technical Education have concerns in this area and can assist the vocational guidance personnel in providing broader and more effective services. Vocational guidance counselors can familiarize themselves with and utilize the services of other public and private agencies at Federal, State, and local levels which offer information and assistance essential to occupational counseling.

RESPONSIBILITIES IN VOCATIONAL GUIDANCE

That vocational counseling is considered to be an element of our national policy in social welfare and national security programs has received wide recognition. The Congress particularly has recognized vocational guidance as an essential part of a number of operational programs for which funds have been authorized. This point may be illustrated by reference to the following Acts of Congress:

1. Public Law 73–30, the Wagner-Peyser Act of 1933. Establishment of the United States Employment Service.
2. Public Law 78–16, the Disabled Veterans Rehabilitation Act of 1943; Public Law 78–346, the G.I. Bill of 1944, and as amended in later years; Public Law 87–634, the War Orphans' Educational Assistance Act of 1961.
3. Public Law 83–565, the Vocational Rehabilitation Act of 1954.
4. Public Law 85–864, the National Defense Education Act of 1958, and subsequent amendments; Public Law 88–210, the Vocational Education Act of 1963; and Public Law 88–665.
5. Public Law 88–415, the Manpower Development and Training Act of 1962, and amendments. (Area Redevelopment Act of 1961)
6. Public Law 88–164, the Mental Retardation Facilities and Community Mental Health Centers Construction Act of 1963.
7. Public Law 88–452, the Economic Opportunity Act of 1964.
8. Public Law 89–10, the Elementary and Secondard Education Act of 1965.

Division of Vocational and Technical Education, USOE

The mission of the U.S. Office of Education's vocational guidance and counseling activity is to stimulate, lead, and support national efforts to improve and extend the vocational aspects of guidance and counseling in (1) specialized vocational and technical education programs, (2) the mainstream of public education, and (3) other avenues of occupational preparation and guidance in American society.

Specifically, the U.S. Office of Education's vocational guidance and counseling responsibilities include the following objectives and functions:

Objectives

1. To promote and support vocational effective guidance and counseling services for all persons identified in the Vocational Education Act of 1963.
2. To insure that Federal support of vocational programs is planned and utilized in ways consistent with principles of economy of resources and good management.
3. To identify needs and opportunities for qualitative improvements in the vocational aspects of guidance and counseling, and to (1) bring available knowledge and resources to bear upon them, and (2) recommend, as needed, additional and/or alternative resources required to meet them.
4. To extend and improve cooperative relationships and working arrangements in vocational guidance and counseling between public schools and other appropriate components of the Nation's "educational system," on the one hand, and other relevant public and private organizations.
5. To promote educational community, employment community, public and governmental understanding, support, and appropriate utilization of vocational guidance and counseling and of vocational and technical education.
6. To encourage and support improved evaluation of vocational guidance and counseling services

and supportive professional and technical resources.

7. To encourage and support improvement of the scientific and technical base for vocational guidance and counseling practice.

Functions

1. Develop *broad plans, policies, objectives, and standards* for utilizing Federal resources for strengthening the vocational aspects of guidance and counseling.

2. Develop and recommend, and after approval, prepare appropriate regulations, instructions, manuals, procedures, and other directives and guidelines.

3. Identify and analyze the guidance and counseling aspects of approved *State plans and projected program activities* in order to (*a*) develop a *national* picture of correspondence to approved Federal objectives, plans, policies, and standards, (*b*) determine areas of concern which need emphasis or correction at National, regional, or State levels, and (*c*) help determine *needs for modification* of approved Federal objectives, plans, policies, and standards.

4. Provide consultative services and other advice and assistance to regional office staff, State education agencies, and local school systems in the *development* of *State plans and operating programs* which strengthen the vocational aspects of guidance and counseling.

5. Identify counselor manpower, and counselor education and training needs for vocational guidance and counseling; develop and recommend plans, policies, and standards for meeting these needs.

6. Organize and/or participate in appropriate conferences, meetings, seminars, etc.

7. Maintain communication and appropriate cooperation and coordination with other counseling and guidance staffs in the Office of Education and other Federal departments and agencies, and with relevant professional associations and other organizations at the National level.

8. Identify research and development needs in vocational guidance and counseling which should receive Federal support, especially under the Vocational Education Act of 1963; provide professional and technical advice and assistance to the Bureau of Research in (*a*) the establishment of priorities for support of research and development projects in vocational guidance and counseling and in (*b*) the evaluation and selection of relevant research proposals.

9. Review and analyze relevant research, conference, and other reports, and selected professional and technical literature for their potential contribution to the development and improvement of objectives, plans, policies, standards, and operating programs.

10. Cooperate with and provide appropriate technical assistance to evaluation and reports staff in developing and interpreting information on vocational guidance and counseling for purposes of program analysis and evaluation and for preparation of annual and special reports.

11. Provide consultative services and other professional and technical assistance, as requested and feasible, to other components of the Bureau (such as Manpower and Adult Education), the Office of Education, and the Department (such as the Vocational Rehabilitation Administration and the Welfare Administration).

12. As requested, assemble or prepare background papers, provide information or advice, and participate in or attend meetings in support of appropriate advisory committees and special study groups.

State Boards of Education

The responsibilities of the several State boards of education for vocational guidance are not dissimilar from those of the U.S. Office of Education, Division of Vocational and Technical Education. The major difference, if it can be called a difference, is in adapting the national objectives and functions of vocational guidance to the peculiar and particular needs of each State or Territory and administering the vocational guidance program within the framework of the rules and regulations of the State or territorial boards responsible for vocational-technical education.

Local Boards of Education

The resources of the vocational-technical education divisions of the State Departments of Education and the U.S. Office of Education are available to lend whatever assistance is essential to make quality vocational guidance available to all youth and adults.

Since employment and unemployment are of national concern, the Federal Government has various agencies operating within the several States and Territories providing vocational guidance services of various kinds for people with a variety of special guidance service needs. Just as the State Departments of Education cooperate and coordinate their efforts with such Federal agencies, the local boards of education can familiarize themselves with the various types of vocational guidance services available through such agencies so that through mutual cooperation and coordination the goal of providing vocational guidance for all youth and adults may be met efficiently and effectively.

SUMMARY

Whereas academic counseling services are available in nine out of 10 American high schools, vocational guidance is available in only five out of 10. The amounts expended on vocational guidance from Federal funds and from State and local matching funds rose steadily, but they still amount to only a small percent of the funds spent for vocational education. The number of counselors has risen dramatically, but it is impossible to determine how many of these are vocational counselors.

A number of vocational guidance resources have been introduced or improved in recent years. These resources are invaluable to vocational guidance counselors.

Because of a number of laws passed since 1933, vocational guidance can be considered to have official recognition and support. The U.S. Office of Education is concerned with vocational guidance in three areas: (1) Vocational education programs; (2) the overall program of public education; and (3) specialized areas of occupational preparation and guidance. Its responsibilities have been extensively defined. It is assumed that State boards will find their chief responsibilities in adapting national objectives and functions to the needs of their own States.

Chapter 8

Supporting Services

This chapter directs attention to three imperative elements in the total program of vocational education: (1) Leadership development; (2) youth organizations; and (3) curriculum and instructional materials.

Prior to the Vocational Education Act of 1963, leadership activities had received only token attention nationwide. It was left to the old theory that "the cream will rise to the top" to supply part of the need for leadership, but suddenly the demand for sophisticated personnel in leadership positions made the old practice unsatisfactory and new catalysts were needed.

The value of youth organizations had been accepted in a matter-of-fact way, but the new dimensions of vocational education tended to place youth organizations in the mainstream of vocational education rather than as an addition to the program.

Curriculum and instructional materials have also been brought into new perspective along with the general expansion of vocational education, with particular emphasis upon needs related to new and innovative programs.

These three areas are cited briefly in this chapter. In chapter 10 the rationale, implications, and needs are set forth in greater detail.

LEADERSHIP DEVELOPMENT

During the past decade, references to leadership have appeared in the record of professional discussions and in the general literature of vocational education. Emphasis has been placed upon the need for leadership as a means of adjusting to the expanded growth and scope of vocational education. Despite the fact that leadership has been suggested as a means of correcting ills and enhancing innovations, an air of vagueness and uncertainty surrounds both the use of the term and the nature of the activities intended. Yet, an urgency for leadership persists in the minds of educators, in general, and among vocational educators, in particular.

National seminars were conducted by the Division of Vocational and Technical Education, prior to the passage of the Vocational Education Act of 1963, to develop administrative leadership. For 10 years, a 2-week National Leadership Development Conference was held annually by the trade and industrial education staff of the division. A great deal of skill and general know-how went into the preparation and operation of these national seminars. Acceptance and participation by the States were outstanding. The conferences were conducted on a shoestring from the standpoint of funds supporting this activity. At no time, however, was it possible to provide adequately for leadership development.

With the passage of the Vocational Education Act of 1963, leadership seminars were initiated under the training provisions of section 4(c) of the act. This moved the functional responsibility for planning leadership seminars from the Division of Vocational and Technical Education, Bureau of Adult, Vocational, and Library Programs, to the Division of Comprehensive and Vocational Education Research located in the Bureau of Research. The Division of Vocational and Technical Education did participate in the planning of the leadership seminars, however.

In recognition of a new direction and expanded purpose for vocational education, leadership training and development were given high priority. A staff development and leadership program was planned with and conducted through the University of Maryland during the summer of 1965.[1]

The program was planned for the professional staff of the Division of Vocational and Technical Education and for the professional staff assigned to the regional offices. Also included as participants were several State supervisors of vocational education. The basic objective of the program was to help bring about a more effective leadership role in implementing VEA 1963.

In addition to in-house staff development, nine regional conferences were conducted during 1966 to orient field and State leadership in vocational education. These conferences were also planned to emphasize the interdisciplinary contribution to vocational education. The theme of the conferences was the "Social and Economic Issues and Implications in Planning and Conducting Vocational and Technical Programs."

These nine conferences served two purposes. The first was to develop leadership in the States. The second was a feedback process to allow the State leaders an opportunity to inform the Federal Office what they considered to be the critical issues facing them. The feedback was obtained through a questionnaire sent to the participants preceding the conferences. The issues then served as focal points for discussion by the conference participants.

Regional and interregional conferences were again conducted in 1967. From February through April, a series of nine regional conferences was conducted for State directors, State supervisors, teacher educators, cooperating agencies and associations, and school administrators. A second series of regional conferences was conducted for State administrators of vocational and technical education on administrative problems and on reporting fiscal and program information.

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[1] The University of Maryland. "Vocational-Technical Education Staff Development Program: Final Report," Contract OE-5-99-226. College Park: The University, 1965, p. 1.

YOUTH ORGANIZATIONS

Students and instructors worked together to launch local youth organizations shortly after vocational and technical education programs began under the sponsorship of the Smith-Hughes Act of 1917. After local chapters were established, State youth associations were created.

From the beginning, these youth organizations have been recognized as an integral part of the instructional programs in vocational education. The organizations serve as an excellent supplement to regular classroom instruction by affording an opportunity for personal development, for training and experience in leadership, and for using initiative and enthusiasm in promoting vocational education objectives.

National vocational education youth organizations throughout the Nation extend their membership to all youth without restrictions because of race, color, or national origin.

Development and Scope of Youth Organizations

The first national vocational youth organization—Future Farmers of America—was organized in 1928. The latest national vocational youth organization—Office Education Association—was organized in 1966. In the intervening 38 years, five additional vocational youth groups were formed. Most youth organizations have similar objectives, but each has some unique aspects. In most cases these groups have been organized to serve a vocational field—as identified in Federal vocational legislation. The exception to the vocational field approach has been in the field of business education where a comprehensive youth group, Future Business Leaders of America, was organized in 1942. It was not confined to vocational students, possibly because this field was not included in Federal legislation until 1963. On the other hand, the Future Secretaries Association's membership is confined to students interested in a secretarial career, as opposed to the total field of business and office.

The following is a brief summary of groups that have been organized in total or in part to serve the needs of boys and girls who are enrolled in a specific vocational curriculum.

Future Farmers of America

The Future Farmers of America was founded in 1928 and made a chartered organization by Congress in 1950. The New Farmers of America, organized in 1935, served Negro students in vocational agriculture in States where separate schools for Negroes were required by law. These two organizations merged in 1965. National membership reached 438,500 by 1967, with 8,908 local chapters in 50 State associations. The organization's official publication is "The National Future Farmer," with 265,000 paid subscribers.

The highlight for the FFA is its annual national convention, and at its 1965 convention 11,800 members attended. The FFA is active internationally and conducts youth-exchange programs. It recently sponsored a Peace Corps project in West Pakistan. The organization also operates a supply service for its members. It does not have a scholarship program, but through its Foundation it provides individual and group awards for outstanding achievement.

Awards are made to winners in local, State, regional, and national contests in public speaking, farm safety, farm electricity, livestock production, crop production, farm forestry, and other areas. Provisions are also being made by the organization to recognize accomplishments of members whose areas of interest are off-farm agricultural occupations.

Future Homemakers of America

Student groups in home economics classes were organized in 1945 as the Future Homemakers of America and the New Homemakers of America. The latter group was organized for Negro youth in States where separate schools were maintained. The two groups merged in 1965 under the title of Future Homemakers of America. National membership reached 600,700 by 1967, with 12,148 chapters in the United States, Puerto Rico, and at military post schools. The organization's official publication is "Teen Times."

Members include students in private and public junior and senior high schools who have taken or are taking courses in home economics. Since the FHA is designed to help broaden and enrich the home economics program, emphasis is given to making FHA an integral part of this program. The home economics teacher is the FHA advisor in each school where there is a chapter. Twelve elected officers who are high school students provide leadership in developing and promoting a national program of work. The 12 national officers elected annually by the members serve on the national executive council. The national advisor, appointed by the National Advisory Board, is the administrator of the organization, which has its headquarters in Washington, D.C.

Distributive Education Clubs of America

The Distributive Education Clubs of America was founded in 1947 and has reached a national membership in 1967 of 73,000, with 2,399 chapters in 51 State associations including Puerto Rico and the District of Columbia.

Highlighting the school year activities of DECA is the annual national leadership conference. Outstanding students from each State association participate in competitive activities, workshops, and seminars, elect student officers, and hear presentations by business leaders. In 1961, the post-secondary division of DECA was established to meet the needs of students at the 13th- and 14th-year levels. These chapters are located in junior colleges, community colleges, and technical institutes. In 1967, separate national leadership conferences were held for the high school and post-secondary division.

The structure of DECA involves three organizations: DECA, Inc., which is the legal sponsoring agency for the youth group; DECA, which is the youth organization directed and operated by student officers elected at the annual national leadership conferences; and the DECA Foundation, which is the portion of the activities sponsored by donor organizations. A full-time executive secretary and supporting staff are located in Washington, D.C.

Vocational Industrial Clubs of America

The Vocational Industrial Clubs of America, founded in May 1965, reached a national membership in 1967 of 42,800 with 1,414 chapters in 31 States. VICA is for youth who are enrolled in trade and industrial programs. An administrative board, composed of State supervisors of trade and industrial education, and a representative from both the U.S. Office of Education and the American Vocational Association serve as the adult governing body. Ten national VICA officers, elected annually by the members, serve on the National Executive Council. A National Advisory Council assists the administrative board. Its members include persons who represent all facets of education, labor, and business. An executive secretary, appointed by the administrative board, serves as the administrative officer of the national organization, which has its headquarters in Washington, D.C.

Business and Office Youth Organizations

Prior to the Vocational Education Act of 1963 there was no national vocational youth group that represented the entire field of business and office education. There were several organizations that had programs for boys and girls enrolled in business education courses. Membership in Future Business Leaders of America was open to any student who had shown an interest in business education by enrolling at some time in any business course. Membership in the Future Secretaries Association was restricted to 11th- or 12th-grade students who were enrolled in a business course leading to a secretarial career. The Future Data Processors was organized to interest highly qualified juniors and seniors to consider entering the field of automatic data processing. All three of these groups were organized prior to 1963.

In April 1967, the Office Education Association held its first national convention at Green Lake, Wis. This is the first vocational youth group organized specifically to serve vocational business and office education students in the total field of office education.

The following is a brief report on each of the associations currently working with students in the field of business and office occupations:

Future Business Leaders of America

The Future Business Leaders of America was organized in 1942 for students enrolled in business subjects. In 1967 it sponsored over 3,000 chapters, with a total membership of 98,795. The organization's official publication is included in the Business Education Forum.

The plan of organization includes local chapters in high schools and colleges, State chapters, and the FBLA national organization. FBLA local and State chapters operate under charters granted by the national organization. Each chapter adopts projects and programs within the framework of the national organization. The high school chapters may be composed of separate clubs for students studying different business subjects; each chapter has officers, working committees, and one or more sponsors. The college chapters may obtain permission to use the title "Phi Beta Lambda, a chapter of FBLA." State chapters are an association of local chapters. They exist in more than half the States, and most States hold an annual convention. The national organization has two divisions—high school and college; each has its own officers, contests, projects, and achievement degrees (Assistant, Supervisor, Leader) providing opportunity for development. Leadership opportunities exist through elected offices from the local to the national organization. FBLA is sponsored by the National Business Education Association and the National Education Association.

Future Secretaries Association

The FSA was founded in 1961 by the National Secretaries Association, International, and has chapters throughout the United States, Canada, Puerto Rico, and Panama. The FSA is an international student association exclusively for prospective secretaries. Chapters of the FSA may be found in high schools, junior colleges, and 4-year colleges and universities throughout the country. Each FSA chapter is under the sponsorship of local chapters of the National Secretaries Association, International, or three employed secretaries. The youth organization is open to business students demonstrating an interest in the secretarial field, unquestionable character and integrity, and above average scholarship. The objectives of FSA are to stimulate interest in the secretarial profession, develop understanding of the profession and its responsibilities, and upgrade secretarial opportunities. FSA programs organized by the NSA include sessions on becoming acquainted with office procedure, communications, and attitudes. Association with professional secretaries is a major membership benefit.

Future Data Processors

In 1964, the Future Data Processors was founded by the Data Processing Management Association. By 1967 the organization's membership reached 3,000. The FDP is an educational organization for secondary students interested in entering the fields of electronic data processing and computer sciences.

The objectives are to (1) stimulate interest among young people in the many facets of automatic data processing, (2) introduce a challenging new career field, and (3) emphasize to students and the community at large the increasing importance of electronic equipment in the further development of effective business, engineering, and public service information systems.

The FDP program is a series of extracurricular classes, often organized as clubs, which are led by an experienced volunteer DPMA representative. Essential to the instructional club program are field trips to various data processing installations. Enrollment in the program is voluntary and is usually restricted to high school seniors and highly qualified juniors or sophomores, all with ability in business and mathematics.

Office Education Association

The Office Education Association, founded in 1967 by an independent organization incorporated in Wisconsin, is a voluntary association of youth that supports office occupations education. Its membership is approximately 15,000, with representation in 11 States. The association's official publication is the quarterly "Office Education Association National Newsletter."

OEA is designed to develop leadership abilities, interest in the American business system, and competency in office occupations within the framework of vocational education. It conducts educational, professional, and civic activities. Learning by living their roles as leaders and followers, members develop both a sense of leadership and responsibility. In 1967, the first national conference of OEA was held, and the installation of State chapters and the election of secondary division and post-secondary-division officers were instituted.

Specific provision has been made for students who are members of FSA, FDP, FBLA, and local clubs to participate in OEA if they are bona fide vocational students with a career objective in office occupations and if they are under the direction of an approved vocational teacher.

Youth Organization Scholarships

The Future Farmers of America has no scholarship program at the national level although there is a program to give cash awards to its members. According to the 22d annual report of the organization, these awards totaled $191,568.92 in 1966. Scholarships are often arranged for deserving members through independent donors and the individual State organization.

The DECA scholarship program began in 1962 with five awards. To date, 104 awards amounting to approximately $97,000 have been given. These range from $500 to $2,000 per recipient and are distributed over a 4-year period. A National Scholarship Committee reviews the applications received from State-level committees who in turn review the local applications. Awards are given to students who wish to continue their education in marketing and distribution.

The VICA scholarship funding campaign was launched in July 1967 to interest businessmen and industrial education teachers. VICA hopes to serve as an information center on all scholarships available for the training of persons in industrial skills and as industrial educators.

The Future Secretaries Association and its parent organization, NSA, award hundreds of scholarships annually through their local chapters. Each chapter sets its criteria for selection. It is estimated that in 1967 over $75,000 was distributed in amounts ranging from $100 to $2,500. Recipients may enroll in schools of their choice.

CURRICULUM AND INSTRUCTIONAL MATERIALS

Preparation of instructional material is a perennial problem in vocational education. This issue was faced with massive effort in 1917 when the Federal Board for Vocational Education produced the first instructional materials used in the national program of vocational education. Such materials were devoted largely to war-related activities, but later attention was directed to curriculum and instructional material needs of the substantive areas of vocational education.

The task of providing material is very great and complex since vocational and technical education provides for a wide range of occupations at several educational levels, and in a wide range of institutions.

Commercial publishers have obviously provided a real service, but several factors prevent them from providing the necessary materials for many vocational training programs. First, it is not feasible to publish, profitably, material for training programs in numerous occupations, because the demand, in terms of numbers, is not great enough. Second, because of the nature of many programs, it is necessary to have materials of a highly individualized nature for maximum instructional efficiency. Third, materials are needed for an expanding number of occupations and for occupations which are undergoing rapid technological change.

The Vocational Education Act of 1963 broadened the task greatly by (1) including office occupations, (2) placing emphasis on training for persons with academic, socioeconomic, and other handicaps, (3) providing training for agricultural related occupations, and (4) placing emphasis on training for employment in occupations related to home economics.

Federal Activities

The Office of Education was involved in the development and production of instructional materials prior to the passage of the Vocational Educational Act of 1963. During fiscal year 1963, for example, contracts were let to develop 13 curriculum items, including several curriculum guides. During 1964, 26 curriculum and course guides were developed, including 21 guides for organizing and conducting short training courses.

Prior to fiscal year 1966, Federal expenditures for curriculum materials relied entirely on funds from the Manpower Development and Training Act of 1962, as indicated in table 86. In fiscal year 1966, the Office of Education made its initial funding for this purpose under VEA 1963.

The reduction in operating budget for the curriculum section in fiscal year 1967 severely curtailed the Division of Vocational and Technical Education effort in curriculum development (see table 86). In contrast to the 1966 fiscal allocation for curriculum and instructional material development within DVTE, which represented a total expenditure of $134,870, the 1967 expenditure was reduced to $3,845, and it appears unlikely that a single dollar will be made available from the Office of Education funds in fiscal year 1968. Funds to print completed curriculum materials were limited in fiscal year 1967 and appear to be completely unavailable for fiscal year 1968. As a result, materials badly needed by the States cannot be made available by the Office even though approximately 40 contracts have been completed and their products are ready for printing.

The curriculum section staff of the Division of Vocational and Technical Educational numbers three professionals, one of which is supported by manpower funds. This section continued to carry out the curriculum development responsibilities of the Division of Manpower Development and Training after a reorganization established it as a separate division.

TABLE 86.—*Summary of curriculum effort, VEA 1963, MDTA, fiscal year 1963–67*

Fiscal year	VEA 1963	MDTA	Total amount [1]	Number of contracts	Product—Guide and/or other [2]
1963	0	$66, 226	$66, 226	5	13
1964	0	96, 202	96, 202	9	26
1965	0	333, 881	333, 881	24	25
1966	$134, 870	337, 418	472, 288	21	22
1967	3, 845	295, 012	298, 857	12	33
Totals	138, 715	1, 128, 739	1, 267, 454	71	119

Guides completed by contractors—259; guides in progress by contractors—63; guides printed by GPO—17; guides processed for GPO printing—9.

[1] Expenditures shown do not include printing costs of completed materials.

[2] Contracts may include the development of more than one product.

A National Curriculum Materials Clinic was conducted by the division in January 1967. Curriculum planners and developers of instructional materials felt a strong need to exchange ideas, develop channels of communication, identify current and projected curricula needs, and extend and coordinate the efforts of the division and the States in serving this important need. Forty-four States and four regional offices were represented by 127 participants and eight consultants.

Many recommendations were submitted to the Division of Vocational and Technical Education for future consideration and implementation. These recommendations, in essence, call for expanded services that should be provided by the Office of Education in addition to those the Office has been attempting to carry on with varying degrees of effectiveness. These services are grouped under the broad functions of leadership, coordination, consultation, dissemination, and development of curriculum materials. It is clearly evident that leaders in this field throughout the Nation are desirous that a stronger leadership and service role be performed by the Office of Education.

Other evidence of need are the many requests by other Federal agencies to the Office to provide a variety of curriculum materials which they have identified as urgently needed in areas of their direct concerns. Such agencies include the Federal Aviation Administration, Department of Labor, Public Health Service, Office of Economic Opportunity, and Atomic Energy Commission. In a few cases resources have been available to meet requests; however, in most cases they could not be fulfilled.

State Activities

Information is not complete on the extent of increased effort by the States in curriculum materials development activity.

The Vocational Education Act of 1963 requires that each State use at least 3 percent of the Federal allotment for ancillary services. The development of instructional materials is one of several ancillary service activities. In fiscal year 1965 there were 37 curriculum specialists at the State level, and the number increased to 52 in 1966.[2] A decrease, however, from 162 to 123, was reported at the local level in the respective fiscal years.

In spite of the encouragement provided by the 1963 act, many States have done little or nothing in this area on an organized basis. Even in States that have organized laboratories, it is indicated that total needs cannot be met because of lack of qualified staff and adequate financial resources.

Curriculum Research

Development of curriculum and instructional materials has been funded by the Division of Comprehensive and Vocational Education Research, Bureau of Research, under section 4(c) of the Vocational Education Act of 1963. In fiscal years 1965 and 1966, over $1.5 million was expended for research and development in this area, constituting approximately 8.5 percent of the total allocation for research projects under the section 4(c) provision.

The impact which the findings of research in curriculum have had on vocational education at the local level cannot readily be determined at this early date. It should be noted that slightly over 50 percent of the research funds committed in this area were for research on educational systems with complex electronic devices.[3]

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[2] Program Planning, Development, Budgeting Series No. 1, National Fiscal and Statistical Data and Projections. Division of Vocational and Technical Education, March 1965.

[3] A compilation of the activities undertaken in this area are summarized in ch. 5 of this report, which deals with research in vocational education.

SUMMARY

Leadership Development

Since leadership can be considered a key to the development and growth of vocational education, it has long been considered a function of the Division of Vocational and Technical Education to assist in the development of such leadership. The Vocational Education Act of 1963 allowed increased emphasis in this area, and both national and regional leadership development programs have been conducted for the benefit of Federal, State, and local leaders in the field.

Youth Organizations

Long considered an integral part of vocational education, youth organizations have received increased emphasis under the Vocational Education Act of 1963. The older organizations have grown in membership, and new organizations have been formed in the newer vocational education areas of business and office occupations and data processing. Nine youth organizations are now contributing to the personal and occupational growth of vocational education students.

Curriculum and Instructional Materials

Primarily because of the diversity of occupations and of the levels of instruction, instructional materials in vocational and technical education can not ordinarily be supplied by commercial sources. Under the Vocational Education Act of 1963, funds were first made available in 1966 for the development and production of curriculum materials but curtailed in later fiscal years. Although 259 guides were completed, only 17 have been printed and nine processed for printing. As a result, the U.S. Office of Education has not been able to supply the materials needed by the States and the various occupations.

Although the States have increased their number of curriculum specialists, they have done little in the field of curriculum on an organized basis.

Approximately 8.5 percent of all research funds expended under section 4(c) were for curriculum research. The impact of these projects cannot yet be assessed.

Chapter 9

Review of Contemporary Local Programs

It was not possible in 1961, nor for that matter is it in 1967, to have in one location sufficient data to describe accurately all developments, achievements, and trends in vocational education in the Nation. Despite improvements in the scope, quality, and quantity of data reported to the U.S. Office of Education, much descriptive material remains at its source and is only partially reported nationally.

To obtain special information concerning the impact of the Vocational Education Act of 1963 upon programs of vocational education, an informal survey was made of selected members of the National Council of Local Administrators. They were asked questions dealing with current developments in vocational and technical education in their school systems.

An invitation to provide relevant supplemental information to the Advisory Council on Vocational Education was also extended to State and local administrators. In addition, local administrators were given the opportunity to send reports of surveys conducted in their schools regarding student characteristics, placement or follow-up data, program descriptions, or evaluation studies. The following data have been extracted from the responses received from 109 persons.

COURSE AND PROGRAM DEVELOPMENT

Provision was made in the legislation of 1963 for both maintenance and expansion of existing course offerings and the development of new programs. Many local administrators reported that prior to the Vocational Education Act of 1963 they had not had sufficient funds to maintain and extend their vocational and technical programs. Many States placed priority on new facilities to house regular programs in areas lacking in vocational education facilities, instead of on developing new programs. Some districts with existing programs elected to expand and update these programs with new equipment.

On the other hand, many local administrators reported that their schools had developed courses new to them. A total of 683 new courses were introduced in the schools represented by the 109 administrators. Course titles and descriptions reflected the traditional occupational categories. Growth appeared predominantly in the areas of trade and industrial, business, health occupations, and technical education.

The method of selecting new programs indicates involvement of interagency and community resources. A majority of the local administrators reported using at least one of three techniques for initiating new programs: (1) Local advisory committees; (2) local community surveys; and (3) State employment service information. This involvement of various resources in program planning provides a higher degree of correlation between occupational education and the world of work.

Table 87 lists the principal sources of information used.

TABLE 87.—*Principal sources of information used in determining the need for new programs*

Sources	Number	Percent of responses
Local advisory committees	62	57
State employment service	41	38
Local community survey	39	36
Student interest survey	15	14
Requests from industry and business	12	11
National survey data (U.S. Department of Labor)	10	8

Other sources were industrial associations, chambers of commerce, State surveys, county surveys, employer interviews, visits to local industry, and State department of education personnel.

STUDENTS WITH SPECIAL NEEDS

Local administrators representing 26 vocational-technical schools and districts reported that their secondary programs included provisions for students with special needs. However, eight local administrators reported no programs for low ability students, and 31 indicated no program development for students with special needs.

The following reasons were cited for failure to develop programs for students with special needs:

1. Present VEA 1963 funds are not sufficient to both strengthen, maintain, and expand existing programs and to develop new programs at the local level.

2. Present State policies and priorities do not always coincide with and often do not consider inherent problems and needs at the local level. Specific examples of concerns expressed by the local administrators are:

(*a*) The inability of poor school districts to allocate money from their general budget to meet matching fund requirements when State policies do not provide for Statewide matching.

(*b*) The enormous cost of updating or adding programs to meet the needs of youth and adults in the large urban school system.

(*c*) In some States rigid State plans are enforced which do not provide the flexibility needed by local districts.

(*d*) The tendency of some State personnel to confine allocation of VEA 1963 funds to the traditional legislative requirements instead of meeting the intent of the 1963 legislation to promote the development of occupational programs for youth and adults preparing to enter gainful employment.

It was apparent from the descriptions by local school directors that several approaches exist to serving students with special needs.

Of the 26 high schools with programs for students with special needs, seven used the general skill center approach, with emphasis on occupational training and related courses geared to low-ability students. Six institutions reported programs for dropouts, five favored the sheltered workshop technique, and one school conducted a 6-week remedial summer session for students with special needs.

Post-high school and adult programs for students with special needs were less prevalent. Counseling, remedial reading programs, individualized programmed instruction, and other related methods of instruction were used to accommodate students with special needs.

Several local administrators stated that programs for persons with special needs were being conducted with funds from other sources, such as Title I of the Elementary and Secondary Education Act (Public Law 89–10), Community Action Programs (OEO), Neighborhood Youth Corps Program, and the Manpower Development and Training Act.

Evidence submitted by the local administrators generally supports the following statements:

1. Confusion regarding the term "students with special needs" does exist; the term requires further clarification.

2. Funding policies employed by the various Federal agencies seeking to reach youth and adults with

special needs vary in matching fund requirements and are competitive.

3. Thirty-two percent of local districts indicate no program development or modifications for students with special needs.

4. Secondary students with special needs are receiving proportionately greater attention than post-secondary and adult students with similar needs. This can be attributed to two factors:

(*a*) Many students with special needs normally do not continue into post-secondary programs.

(*b*) MDTA and Adult Basic Education (title II–B) funds are directed at the adult special needs group.

5. The minimal effort reported is consistent with the predominance of the further development of existing programs, facility construction, and equipment up-dating as against the development of new programs.

It must be emphasized again that vocational education has traditionally served some youth with special needs in the regular vocational education programs; local administrators have been sensitive to the needs of these youth for years. For example, data supplied to the council concerning enrollment for fiscal year 1967 indicated this fact. Mississippi reported an enrollment of 1,217 persons in classes for persons with special needs, but indicated also that 608 students enrolled in the regular secondary school program of vocational education (about 1 percent of the enrollment) were youth with special needs. Obviously the degree of the special need is a factor.

STUDENT SELECTION

Approximately 75 percent of the local districts surveyed indicated that the student selection process has not changed in their schools. Seventeen of the local administrators (22 percent) indicated increased use of the counseling technique in the screening process. Of the administrators reporting, 25 percent emphasized the use of test batteries, both school administered and conducted by the State Employment Security Office.

Three administrators made reference to an open door policy, enabling all students who could benefit from vocational education to enter their programs.

Interviews were used by most schools in addition to one or more of the other methods.

A few schools reported the elimination of previous prerequisite subjects for admission to vocational programs in their schools and stated that special exceptions were made for underprivileged and out-of-school youth to facilitate their acceptance.

It does not appear that existing student selection criteria were substantially altered as a result of program changes provided by the Vocational Education Act of 1963. There is also no reason to believe that previous selection processes were unsatisfactory. But there is evidence to indicate that school administrators are at least sensitive to the problems of student selection for vocational education.

TECHNIQUES AND PRACTICES

A variety of activities, ranging from interdisciplinary program offerings to the implementation of new techniques and media to support vocational-technical education, were reported as "innovative practices" added at the local school level.

These reports point out the semantic problem inherent in the term innovative. A compromise allowing for a liberal and flexible interpretation of the word innovative has been adopted for the purposes of this summary.

The innovative practices reported at the local level are itemized below:

- Initiated an audiovisual laboratory.
- Introduced equipment for teaching pneumatics and hydraulics related to mechanical courses.
- Introduced team teaching.
- Introduced programed material.
- Initiated exploratory prevocational courses for grades 9–10.
- Extended the use of facilities to other districts within a 25-mile radius.
- Worked with industry to train production workers.
- Initiated new programs of training State prison inmates.
- Established counseling and research departments.

- Started a practical vocational experience shop for students with special needs.
- Instituted core programs to facilitate greater articulation between high school and junior college programs.
- Established three-level electronics programs.
- Introduced a block-time clerical training program for slow learners.
- Constructed a new 26,000-square-foot area school with the following features: all electric, air-conditioned, no windows or halls, open area shops, and acoustic ceiling and walls.
- Developed skill centers for increased use of audiovisual equipment.
- Introduced programed learning in math—extensive use of overhead projector and tape recorder in class discussions.
- Established vocational counseling and placement program.
- Extended availability of data processing laboratory to 6 p.m. daily and 8 a.m. to 12 noon on Saturday.
- Opened reading laboratory on schedule for student use at their discretion.
- Introduced use of Mark IV Autotutor for basic concepts of electricity and electronics.
- Abandoned former prescribed academic prerequisite aspects in occupational programs. Students advance from basic course to 11th and 12th year specialized tracks on a performance basis.
- Intensified counseling services.
- Instituted on-the-job experience as a regular part of students class time in the last semester of vocational programs.
- Maintained a performance skill report on every student for placement programs.
- Developed programs that accommodate dual objectives; employment or further training at the junior college.
- Initiated regional advisory committees serving dozens of schools rather than one.
- Amalgamated the efforts and notable successes of both industrial arts and vocational trade and industrial programs into a new look for high school offerings.
- Initiated Project Orancorp which incorporates instructional units of mass production; interchangeability of parts, jigs, and fixtures; packaging; and quality control and inspection.
- Implemented a placement service for students, grades 7–12.
- Operated a new course concept in agri-business technology (feed, seed, fertilizer, and chemical marketing).
- Involved four school districts in the development of a cooperative agreement to participate in a regional vocational center.
- Developed an instructional media system with a full-time director. Includes audiovisual equipment such as video tape and closed circuit television.
- Built a facility to take care of the related instruction for apprentices.
- Worked out a communication system about students' occupational concepts between teachers, counselors, administrators, and parents.
- Introduced work experience education programs to supplement and augment continuation school programs.
- Introduced work study for youth involved in vocational education, including jobs in agriculture, automechanics, and hospital services.
- Initiated direct placement of youth in summer work in cooperation with the local newspaper, service clubs, Department of Employment, and the Fair Labor Office.
- Incorporated sheltered workshop programs and occupational work experience programs on the theory that earn-while-you-learn is an incentive to stay in school and develop academic abilities as well as vocational skills.
- Coordinated academic teachers' programs with various shop programs.
- Developed the largest vocational education horticulture program in the State of Ohio, leading into greenskeeping, industrial landscaping, food merchandising, greenhouse management, etc.
- Individualized instruction in study skills to improve such basic skills as reading, math, and comprehension.
- Initiated instruction by closed service TV in vocational areas.
- Initiated instruction in reading, writing, math review, and study techniques for minority group individuals with bilingual needs who are enrolled in the practical nursing program.
- Installed in the welding shop a two-way communication and monitoring system which permits the instructor to converse individually with each student and at the same time monitor the entire class for administrative control and safety purposes.

- For the first time, offered girls trade training in a variety of areas.
- Rotated students through an occupational cluster during their first year of training.
- Provided half-time assignments to first-year shop teachers so that they could develop their shop organization, course construction, and curriculum.
- Developed a vocational orientation course for all 10th-grade students.
- Developed a mobile training unit that enables the college to take complete training units into pockets of hard core unemployment.
- Rented and operated a restaurant on Main Street for a training school.
- Developed a quantity cooking program for homemaking, using the school's hot lunch program as a training facility.
- Coordinated basic and high school completion with job entry training at all levels.
- Used additional programs offered under the area vocational school by transfer of students and provision of transportation to and from these facilities.
- Incorporated an enrichment program involving the university facilities with the vocational education program.
- Employed vocational guidance counselors.
- Initiated 2- and 3-hour vocational block programs.
- Established Guidance and Occupational Center for dropouts.
- Employed persons from industry to assist in developing programs and developing instructional materials for special courses.

Thus in many ways old ideas and established practices are showing up in the contemporary program at the local level as new and innovative. Unquestionably the tempo of activity has increased. There is little room for doubt that improvements are being made under the influence and motivation of the Vocational Education Act of 1963.

INTERAGENCY COOPERATION

The resources of community, State, and Federal agencies have been utilized in program development. Table 88 displays the various cooperative arrangements used by local administrators in developing new programs. The three resources named most frequently were local industry, State employment service, and labor organizations. Among the sources reported by an individual administrator were private employment agencies and church groups. Four of the administrators did not indicate the use of any cooperative arrangements.

TABLE 88.—*Cooperative arrangements utilized in developing new programs*

Cooperating agency	Number of respondents	Percent [1]
Local industry and business	78	80
Employment service data and personnel	67	68
Labor organizations	62	63
Chamber of commerce	14	14
Office of Economic Opportunity	6	6
Civic clubs	5	5
Manufacturers	4	4

[1] Adds up to more than 100 percent because some schools named more than 1.

SELECTED SURVEYS AND STUDIES

To establish a new program of vocational education or to expand existing programs, certain facts must be gathered and considered. Present and projected needs—local, statewide, and nationwide—in principal occupations can serve as a rational basis for vocational program development.

Various approaches to employment surveys have been reported. The design of survey instruments and the organizational procedure through which their results were obtained vary considerably among the States. Specific examples of employment surveys have been selected from material submitted by the States to depict varying scope and different techniques used in program planning.

An evaluation of their validity and accuracy can be made only in relation to the extent to which the data have been helpful in enabling vocational program planning to align trainee enrollment with employment needs.

As a result of the Vocational Education Act of 1963, which encourages the States and communities to provide a more adequate program of vocational education, many community and occupational surveys were conducted in an attempt to develop or improve vocational programs. A random selection of some of the studies is described briefly below.

Colorado completed a two-part study. Part one was a compilation of six existing reports concerning Colorado and Denver, part two provides information about current and projected occupational patterns in the Denver area. The study reports on a wide range of occupations and the overall job structure within these occupations.

Connecticut studied its present and projected manpower requirements for technician occupations. The study was designed so that its findings could be used in program planning. A major outcome of the study was the introduction of a bill in the State legislature for funds to build a State technical institute.

Florida conducted a study to determine what occupational programs should be offered in the State and made an assessment of facilities as well as an analysis of the State's organizational and financial structure in relation to the provision of vocational education. Twenty-three recommendations were made to the superintendent of public instruction for further action by appropriate authorities.

Illinois studied emerging occupations in the State. Information was sought that would assist in the development of new programs. Findings and recommendations of the study have emphasized areas where constructive legislative effort can be made.

Iowa studied the types and degree of industrial training being conducted within the State. The results of the study can assist in coordinating in-plant training with supplementary school programs. In addition, the State completed a comprehensive study of post-high-school education. The results of this study will assist in future planning of post-secondary programs in vocational education.

Texas conducted and tabulated 240 occupational surveys. The study was used to designate where area programs should be located. The report shows that present student enrollments in vocational education would have to double in order to fill the occupational needs predicted in the survey.

Wisconsin survey business and industry to ascertain how the vocational-technical schools and adult programs attract and enable business and industry to relocate and expand in the State. It found that 97 percent of the employers with addresses in cities with vocational-technical adult schools stated that the schools had contributed to the quality of the work force in their areas. It also was found that there was need to provide vocational education in more communities within the State.

These short paragraphs give a glimpse of the many activities going on nationwide that are designed to improve and expand vocational education. It was through financial assistance of the Vocational Education Act of 1963 that many of the studies were made possible.

Evaluation Reports

The extent to which evaluation has been conducted in each State varies considerably, as do both the approaches employed and the depth of study. Evaluation studies of on-going programs are necessary for sound vocational education program development. The findings from such evaluation studies, especially those of comprehensive in-depth investigations, have justified use of funds and personnel time.

The following material ranging from an all-school evaluation to individual course evaluations was received from the States. It is representative of the individual efforts being conducted in the area of program evaluation:

1. *Evaluating Vocational Education in the Public Schools*. Educational Research Series, No. 32, October 1965, Bureau of Educational Research Services, College of Education, Michigan State University of East Lansing, Mich.
2. The format for: *Evaluation of Vocational-Technical Education in Mississippi, 1966, Evaluation Forms 1 and 2.*
3. *A Five-State Statistical Analysis,* Achievement Test Program, Ohio Trade and Industrial Education Services, Division of Vocational Education.
4. *Assessment Guidelines for Education Pilot Projects 1965–1966*. State of New Jersey Department of Education, Vocational Division, Trenton, N.J.
5. *Power Technology Evaluation*. Fond du Lac School of Vocational, Technical, and Adult Education. Wisconsin State Board of Vocational, Technical, and Adult Education, Madison, Wis.
6. *Architectural Structural Technology Evaluation* Racine School of Vocational, Technical, and Adult Education. Wisconsin State Board of Vocational, Technical, and Adult Education, Madison, Wis.
7. *All-School Evaluation* (*Questionnaire*) *Final Report of the All-School Evaluation, 1966*. State Board of Vocational and Adult Education, Madison, Wis.
8. *Civil Technology Evaluation,* Madison School of Vocational Technical, and Adult Education,

1964. State Board of Vocational and Adult Education, Madison, Wis.

9. *Guidelines for Evaluating Secondary Vocational Programs in Ornamental Horticulture.* State Education Department, Office of Research and Evaluation, Albany, N.Y.

10. *An Evaluation of the Effectiveness of the Vocational Education Act of 1963 in the Development and Expansion of Vocational Education in the Public Schools of South Carolina.*

11. *Instrument for Evaluating a Department of Vocational Agriculture.* Department of Public Instruction, Agricultural Education Section, Harrisburg, Pa.

BENEFITS OF VEA 1963 AND DETERRENTS TO PROGRAM DEVELOPMENT

The local administrators were asked to identify the concerns and contributions of the 1963 legislation from the standpoint of the local level. The first two major benefits reported were the updating of equipment and construction of facilities. The introduction of new programs, expansion of on-going programs, and the flexibility to serve the needs of more people were identified as the next group of benefits resulting from the Vocational Education Act of 1963. Table 89 displays the benefits reported.

TABLE 89.—*Major benefits of VEA 1963 reported by local administrators of vocational education*

Benefit	Number of respondents	Percent[1]
Updating equipment	37	38
Construction of area schools or new facilities for area schools	30	31
Introduction of new programs	19	19
Expansion of existing programs	16	16
Flexibility to serve the needs of more persons	16	16
Expansion of staff	9	9
Provision of guidance services	7	7
Funds for research	4	4

[1] Adds up to more than 100 percent because some respondents named more than 1.

The major deterrents to expansion of vocational programs were reported to be lack of sufficient funds, qualified personnel, and facilities. Table 90 displays the deterrents reported most frequently.

TABLE 90.—*Major deterrents to an expanded program of vocational education*

Deterrent	Number of respondents	Percent[1]
Lack of sufficient funds (construction and program operation)	36	37
Lack of qualified personnel (teachers and supervisory)	27	28
Lack of communication with the general public (college vs. vocational education)	19	19
Attitude of administrators-teachers	15	15
Local matching	11	11
Emphasis on college and academics	10	10

[1] Adds up to more than 100 percent because some respondents named more than 1.

Other deterrents reported by a few administrators related to State operating policies, and confusion and lack of coordination caused by a multigovernment program approach; i.e., Job Corps, OEO, NYC.

Two conferences were conducted by the advisory council staff with 16 selected local vocational education administrators representing a cross-section of urban and rural school districts. Several of these vocational education administrators were invited because their local programs had enrollments as large as those of some States, and, in addition, they had experience in providing vocational education to the urban community. The other administrators represented programs that had unique characteristics. During the conferences the participants prepared written statements identifying areas of greatest concern.

Mention was made of the need for more new and specialized programs to serve those with special needs (including additional funding), fewer restrictions from the State level, adequate staffing, special funding for leadership education, better ways of determining program needs, improved vocational counseling, and better means for program evaluation. Local administrators expressed a desire to participate in the formulation of State plans of vocational education, and held that certification requirements needed to be liberalized. They saw the need for leadership development and placed value on advisory committees.

SUMMARY

An informal survey was made of selected local administrators concerning developments in their schools or districts. The 109 respondents reported that 683 new courses had been introduced. These new courses were chiefly in the traditional fields, mainly business, health occupations, and technical education. In selecting new programs, the sources of information most widely used were local advisory committees, the State employment service, and local community surveys.

About one-fourth of the administrators reported the development of courses for persons with special needs. The programs reported included skill centers, special programs for dropouts, and sheltered workshops, among others. It was noted by several that some programs were being conducted in this area with funds from sources other than the Vocational Education Act of 1963.

Student selection methods have apparently not been changed to any great extent since the passage of the 1963 legislation.

Many kinds of activities were reported as innovative, from new guidance programs to team teaching to multimedia approaches.

A wide range of community resources is being used by schools in developing their programs, notable local business and industry, the employment service, and labor organizations.

Many administrators reported making community surveys, and a number of State surveys were reported as well.

PART II

EVALUATION AND ASSESSMENT

The purpose of part II is to extend the discussion of the various facets of vocational education, and to cite points of view, trends, and relationships that provide background data leading to the Council's recommendations, which are presented in part III.

Attention has been given in part II to achievements and limitations, the social and manpower environment, and innovations and new directions.

Chapter 10

Achievements and Limitations

Many changes have taken place in vocational education since the study by the Panel of Consultants on Vocational Education in 1961–62. The Vocational Education Act of 1963, based upon the report of the Panel, provided program flexibility, opened up new areas of service to people, and provided increased funds to the States. There can be no doubt about the positive influence of the act upon the growth and development of vocational education.

This chapter will cite achievements and limitations of vocational education from four major positions: (1) The general growth and development; (2) the people served; (3) the related ancillary services; and (4) administration and finance.

GROWTH AND DEVELOPMENT

Substantive data to indicate growth and development of vocational education due to the Vocational Education Act of 1963 are limited to the records for fiscal years 1965 and 1966, because funds were not available under the act until September 1964. States could not start programs until the funds were made available, and further delay was occasioned by the need to prepare new State plans and because of the civil rights legislation. Many States, therefore, could not take advantage of the Vocational Education Act of 1963 until late in fiscal year 1965.

Data for fiscal years 1965 and 1966 indicate that enrollment grew by 32.9 percent over the enrollment in fiscal year 1964. Tentative figures for fiscal year 1967 indicate an increase of roughly 18 percent over the enrollment for fiscal year 1966. Projections based upon studies by the Program Planning and Development Branch, Division of Vocational and Technical Education, indicate an enrollment in 1970 of 9,600,000 and in 1975 of 14 million.

Future growth and development of vocational and technical education depend on complex variables. Projections of population growth, size and distribution of age groups, increasing educational achievement of the population as a whole, rate of economic growth, a variety of social changes, and freedom from major social and economic upsets are some of these variables. In addition, increasing educational requirements for all occupational areas and the rate at which educational facilities are made available for continuing education are directly related to the future growth. Possibly one of the more important influences is the general public commitment to a policy of responsibility for the occupational preparation of the youth and adults of the Nation.

Data for fiscal years 1965 and 1966 were tabulated on the basis of (1) the first four purposes of the Vocational Education Act of 1963 and (2) occupational categories as required by the Smith-Hughes Act and the George-Barden Act as amended.

On the basis of the purposes of the act, enrollments show the following increases in fiscal year 1966 over fiscal year 1964:

	Percent
Secondary school	+43.0
Post-secondary school	+156.7
Adult education	+12.9

Occupational categories show the following enrollment changes:

Agriculture	+5.4
Distributive	+25.8
Health	+41.8
Home economics	−6.1
Technical	+14.7
Trade and industrial	+18.7

Chapter 2 delineates many other details of changes in enrollment. On the basis of the total data available, the following can be cited as elements of achievement:

Achievements

- Vocational education enrollment has been increasing at a higher rate (about 14 percent) since the passage of the Vocational Education Act of 1963 than in the 3-year period prior to the act (roughly 4 percent).
- Vocational education served 31.3 persons per 1,000 population in 1966; an increase of 10.2 over 1961.
- Vocational education is serving: 25.4 percent of secondary school students; 3.2 percent of the 20- to 24-year age group; and 2.8 percent of the 25- to 64-year age group.
- Although 91 percent of the schools offering vocational education were regular or comprehensive secondary schools, gains were noted in the number of post-secondary-type institutions.
- The total number of vocational education teachers for fiscal year 1966 was 124,042—a gain of 13.7 percent over fiscal year 1965.
- The number of different occupational areas served by vocational education has increased as well as the enrollment in these areas.
- Approximately 80 percent of the persons available for placement were placed in the occupation for which they were trained or in a related area. Only 4 percent were unemployed.

Limitations

- Reporting of vocational education data is suffering from the lack of a fully developed data collection and reporting system.

PEOPLE SERVED

Vocational education serves the needs of persons enrolled in various types of programs and in various kinds of schools. The Vocational Education Act of 1963 identified four groups of persons to be served.

Secondary Schools

Two points of concern need to be considered in evaluating the emphasis which has been given to the high school level vocational education. First, there is a growing feeling that the standard or traditional programs of vocational education do not meet the needs of many high school students. There appears to be a trend for high school programs to become more comprehensive and to encompass a guidance and motivational function as well as training for salable skills. The trend implies that high school programs should not be terminal but, instead, nonblocking. That is, the program should allow for transition to work or to the next level of education. This does not negate the need for programs to accommodate students who are incapable or unable to complete or pursue their education beyond high school. However, it does suggest a need for change in emphasis.

The local directors of vocational education serving as consultants to the council expressed interest in and need for greater emphasis on prevocational and comprehensive vocational programs in the high school. They also expressed the need for programs to accommodate students not now enrolled in vocational education. This suggests the need for vocational programs that have sufficient autonomy and flexibility to permit the administrator to adjust the thrust of the offering to accommodate those not presently enrolled, prevocational type students, and many others. There should, likewise, be an orderly adjusting of the school curriculum to the needs of business and industry as well as to the needs of potential trainees.

A second point of concern is with the criticism leveled at vocational education for the apparent continued emphasis on agriculture and home economics. In 1964 these two programs accounted for 63.1 percent of the vocational education enrollment; 18.8 percent were enrolled in agriculture and 44.3 percent in home economics. In 1965 these two programs constituted 54.9 percent of the enrollment, and this declined to 50.4 percent in 1966, with 14.9 percent enrolled in agriculture and 35.5 percent in home economics.

Programs in agriculture have been redirected, in part, to include off-farm occupations; 12.4 percent of the total enrollment in agriculture in 1966 was in such programs. Home economics has been expanded to include programs for gainful employment; 39,489 persons were enrolled in these programs in 1966.

It is evident that the Vocational Education Act of 1963 has been effective in providing new areas of emphasis for both agriculture and home economics, as well as an emphasis upon expansion of other areas of vocational education.

Office occupations education was counted in vocational education statistics for the first time in 1965. Vocational educators worked diligently to make certain that teachers met qualification requirements, instructional programs reflected the vocational objective, and coordination, supervision, counseling, and teacher education services were made available to those involved in this activity new to the vocational education field.

Post-Secondary Schools

The trend to develop community or junior colleges is significant. There needs to be a great emphasis on vocational program development for the junior college level. Too often, the high school program is moved upward or duplicated with little change, or the opposite pattern of only offering status programs which ignore the needs of a large number of students which should be served in such institutions.

The future potential of the community college for vocational education offers many opportunities, however, it is important that the emphasis does not become so great that programs for those who drop out of or do not go beyond high school are overlooked.

It should be noted that there are still many States which have not introduced the community college into their educational system.

The trend for post-secondary education is a continued increase. The Economic Report of the President stated that:

> Between 1956 and 1966, enrollment in full-time elementary and secondary day schools in the United States increased by 33 percent, from 37.2 million to 49.7 million. This sharp increase is attributable to the postward spurt in birth rates and to greater school attendance by teenagers. Because roughly half of high school graduates continued on to college while the number of students graduating from high school rose sharply, college and university enrollment doubled from 2.9 million in 1956 to 6.0 million in 1966.
>
> In the next decade elementary and secondary school enrollments will increase only about one-fourth as much as in the past decade. Demand for college education, on the other hand, is expected to continue increasing rapidly, as the proportion of youths completing high school rises and as somewhat more than half of high school graduates to college.[1]

Adult Education Programs

In view of changing job requirements brought about by technological advance and the increasing need for updating and improving work skills, adult education will have an increasingly important function in vocational education and should receive greatly increased emphasis.

In view of the strong push for prevocational training, growth in comprehensive high schools, courses for the disadvantaged and the like, administrators should not lose sight of their commitment to adult vocational education. Those sensitive to program change and emphasis shift see many movements both operating and pending that would tend to divert the attention of the vocational administrator at a time when others are strengthening their position in the adult field. The preservice and inservice supplementary training of adults is an important function of vocational education. It is more than that, it is a vehicle that can weld the school to the business and industrial establishments of the community. Educators, not well grounded in the total spectrum of vocational education are likely to be unaware of this important program. One needs only to examine the enrollment ratios to understand the need for greater emphasis on sound and growing adult vocational education.

The relatively small increase in expenditures and enrollment between 1965 and 1966 suggests that emphasis on adult education programs has not been commensurate with the need. The competition for tax dollars has probably caused many States and districts to be reluctant to assume the financial responsibility for expanding their adult programs. However, adult education is becoming increasingly important. As the rate of technological change increases, there is a corresponding increase in the need for training and retraining the adult population to meet the new occupational requirements. Therefore, special emphasis, considering a variety of alternative methods, needs to be structured for meeting the adult education purposes.

Programs for Youth With Special Needs

The Vocational Education Act of 1963, like other educational acts of about the same time, placed emphasis upon the need to combat poverty and unemployment. One of the purposes of the act was to expand vocational education programs for persons who have academic, socioeconomic, or other handicaps that prevent them from succeeding in the regular vocational education programs.

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[1] "Economic Report of the President," January 1967, p. 145.

Several factors bear on this problem. One is the reluctance of many persons in vocational education to accommodate this type of student. For many years vocational education has suffered from its image as a program for the troublemaker, slow learner, nonmotivated, less-than-college-ability types. Therefore, it is natural that there will be a strong tendency to avoid programs which perpetuate or increase this negative image.

Another factor is the lead time required to identify the population to be served, to develop programs, and to implement them. Although many students with special needs have been accommodated in vocational education in the past, it has usually been on an individual basis within the regular programs. A separate program for these persons is a new development in vocational education.

The special needs classification is emphasized not only by the Vocational Education Act of 1963 but also by the Manpower Development and Training Act and the Economic Opportunity Act. Because these latter acts do not require matching funds and because the States and localities have been reluctant to finance new or special programs, many States and local districts have turned to these sources for funding projects in the special needs category.

Again, it should be noted that the reporting system does not clearly present what is taking place in this area. Efforts are being made in this direction, and programs are being developed to accommodate persons within the classification. However, the evidence would appear to support the criticism that this purpose has not received the emphasis intended by the Congress through Public Law 88–210.

Practical solutions including suggestions for establishing programs and services that fit into ongoing program activities are needed. The leadership role of the Office of Education and the division places strong demands upon the specialists to ferret-out exemplary programs, document the success factors, package the proposals to fit a variety of State, area, and local conditions, and make this information available to administrators.

Programs for persons with special needs are not being implemented because many earnest vocational administrators are not fully cognizant of what constitutes an optimum program of services and training. There will be continued delays in implementing these programs until some suggested models are made available.

Vocational Training of Minority Groups

The integration of public schools has been a major purpose of the civil rights movement and has become public policy in the United States. The thrust of the civil rights legislation of the past years has been directed toward school integration and equal employment opportunities. However, soon it was found that integration and equal employment opportunities remain unattainable objectives if they are not implemented with definitive efforts to help the academically under privileged—white and nonwhite alike—acquire the general education and the vocational skills necessary to profit from training in integrated schools. Education must provide special programs for youths with educational handicaps to overcome the results of many decades of lack of opportunities.

Presently, there are no data available to assess the progress that has been accomplished in integrating vocational schools and in preparing nonwhite persons for the skills needed to attain equal employment opportunities. Probably it can be assumed that integration of vocational schools parallels closely the overall patterns of integration in all public schools. Several university studies are now in process on the characteristics of graduates and on the trends of vocational programs that may yield meaningful information on the degree of integration and on the nature of vocational training of minority groups.

Historically, where occupations have been closed to minority groups, these groups have also been discouraged from pursuing training for occupations that leads to no jobs. Studies indicate that proportionally a high ratio of Negroes are enrolled in vocational schools in metropolitan areas that are, however, in many cases de facto segregated. The same studies also indicate that nonwhite persons are still often trained for low-skill occupations. However, as employment opportunities are made available in formerly closed occupations, vocational training is also opened for such occupations. Finally, it can be concluded from several studies that nonwhite persons greatly profit from vocational education.

The principle of equal opportunity for all Americans on all levels of our society is a declared goal of public policy. The contribution of vocational education towards this goal requires special efforts to prepare minority groups in an effective way—if necessary, through innovative programs—to actually attain employment in a job of their choice.

Apprenticeship

Vocational education is primarily responsible for providing related instruction for apprentices. The classes, taught by skilled journeymen, are conducted as a part of the program of trade and industrial education and, to a limited extent, as a part of the technical education program. During fiscal year 1966, a total of 65,244 apprentices were reported to the Office of Education as under instruction in 52 occupational areas.

Many States have developed instructional materials designed particularly for apprentices. Such materials are graded into units according to the complexity of the occupation and the length of the apprenticeship, and the various States exchange such materials in order to provide the widest possible coverage of available instructional materials. The development of instructional materials for apprentices involves cooperative relationships with joint apprenticeship committees in order to keep content up to date with actual practice.

Apprenticeship, which is a very old method of preparing skilled craftsmen, entered the national program of vocational education with the Smith-Hughes Act in 1917. National legislation in the form of the Fitzgerald Act in 1937 provided for promotional activities and encouraged States to supplement the national act by State laws governing the conduct of apprenticeship. One of the key points in the apprenticeship program is that instruction is supplemental to the daily employment of the apprentice. The emphasis is upon science and mathematics related to the instruction.

Apprenticeship involves an employment relationship, and apprentices are selected by joint apprenticeship committees responsible for a particular program. Entry requirements for apprenticeship vary considerably, but high school graduation is rapidly becoming a basic educational requirement for all apprentices. The number of apprentices in training is small compared to the national need, and highly selective practices among apprenticeship committees often rule out many persons who otherwise could meet basic requirements. Despite many difficulties involved in the selection, employment, and training of apprentices, the program is highlighted by exemplary instructional practices.

Achievements

- The general growth of enrollment in vocational education indicates that the rate at which vocational education is serving people is increasing.
- The most rapid rate of growth in serving the needs of people occurs in post-secondary institutions.
- Vocational education is offered (although on a limited scale) to students with special needs.

Limitations

- Vocational education reaches only about one-fourth of the students in secondary schools.
- While vocational education programs and services have been expanded for all population segments, the expansion has not been great enough in response to the needs of people in metropolitan areas, particularly the culturally and economically disadvantaged, and residents of slums and ghetto neighborhoods.
- Few programs have been developed to reach the high school dropout.
- Programs for hard core unemployed have not been developed in relation to the need.
- Data are not available to indicate the degree to which minority groups are being served by vocational education.

TEACHER EDUCATION

Teachers of vocational education have been identified in terms of the areas of their subject matter competency—agriculture, technical, home economics, and the like. This is not essentially different from the designation of other teachers—mathematics, history, French, social studies, for example. However, differences have developed in the area of professional education for teachers in such a way as to result in characteristics distinguishing the programs for vocational education teachers from those for teachers of other subject matter areas.

These differences emerged with Federal support for vocational education in 1917. The motivators of the vocational education movement had set a high priority upon the qualifications of teachers and included in their general rationale an emphasis upon teacher education as a means of reaching desired quality goals. In fact, the Smith-Hughes Act made it mandatory that States establish programs of vocational teacher education in order to receive financial benefits from the Vocational Education Act.

Teacher education programs common in the normal schools of 1917 were thought to be inadequate as a base for professional preparation of vocational teachers. In addition, the normal schools of the period had shown little interest in the special problems of education for this group of new teachers.

So, the various States set forth their own qualifications for teachers and devised certificate or credential requirements to fit their general plan of teacher education. The general pattern in agriculture and home economics was to establish teacher education programs in land-grant colleges where strong teaching and research staffs in the disciplines had been established. Over the years the patterns of vocational teacher education have changed in a variety of ways, both among the States and within the vocational education specialties.

The practice of identifying vocational education in terms of the areas of agriculture, home economics, distributive education, trade and industry, health education, and technical education tended to produce special programs of teacher education for each of these groups of teachers.

One thing has not changed during the first half-century of vocational education concerning teacher education, and that is the original enthusiasm for excellence in teaching.

Projections

Projections suggest that within the next decade the number of persons enrolled in teacher education should increase by at least 150 percent. Implications of growth in the number of teachers make it clear that teacher education programs must not only expand, but change significantly in a number of ways. Such change must take into account the continuing demand for a more sophisticated corps of teachers—persons who are more highly skilled and knowledgeable in their particular area of competency, and who have a greater depth of understanding in related areas.

The number of vocational education teachers in 1966 was 124,042. The projected number of teachers and projected enrollment in teacher education programs is shown in table 91.

TABLE 91.—*Projections of teachers and teacher education enrollment, 1970 and 1975*[1]

Year	Projected number of teachers	Projected enrollment in teacher education
1970	213, 300	149, 300
1975	350, 000	245, 000

[1] Data supplied by the Division of Vocational and Technical Education.

Teacher education programs have focused upon preparing an untrained prospective teacher. The task ahead not only calls for increased effort in this aspect of the problem, but also for dealing with experienced teachers from other subject matter areas. In addition, it is apparent that great emphasis must be placed upon inservice teacher education. There are at least three major functions in the area of inservice teacher education: (1) Updating the teacher's skills and knowledge of the instructional area—keeping up with the technology and general changes involved; (2) updating skills and knowledge in professional education so that the teacher may have, on an organized basis, a review of research which has implications for teaching and learning, curriculum planning, teaching methods, and evaluation, understanding, and experience in the use of new materials and media of instruction, and an opportunity to satisfy felt needs as an instructor; and (3) providing an opportunity to participate in workshops, seminars, clinics, conferences, and other organized meetings in related areas and in other disciplines—social, economic, manpower, occupational status, trends, and anticipated changes, for example.

The needed renaissance in teacher education does not demand scrapping all existing programs of teacher education, but instead building upon proven values to improve and expand the scope of responsibility of teacher education. This renaissance must include adequate provision for maximum flexibility in order to meet personal and occupational needs of teachers entering and continuing in the field of vocational

Improvement of the Present Program

Agriculture

Teacher education problems and needs for teachers of agricultural education are identified in the following six items:

1. Each undergraduate trainee should be required to spend at least one summer as an employee of an off-farm agricultural business or industry.
2. A plan should be provided whereby vocational agriculture instructors will have an opportunity to become familiar with off-farm agriculture. This may be accomplished by supervised employment experience, workshops jointly conducted by teacher educators and representatives of business and industry, and carefully conducted tours and conferences.

3. Staff members in agricultural education may need retooling. Many are oriented toward production agriculture. Many have been removed from production agriculture for many years and are not knowledgeable in present day agricultural technology. Many know little about off-farm agricultural businesses and industries.

4. A greatly expanded program of inservice education for vocational agriculture teachers is needed and should capitalize on the resources available from the land-grant institution through its experiment station, extension services, computation center, and departmental staffs.

5. In many States the number of staff members in agricultural education would have to be doubled if the in-service needs of vocational agriculture teachers were to be met. The investment of resources in inservice education can be more fruitful than investment of resources in undergraduate programs; the influence can be felt immediately.

6. Teacher educators must develop in the trainee at the preservice level greater competence in teaching young and adult farmers. Many teacher education programs do not provide either in courses or in student teaching the attainment of these competencies. Similarly, the possibility of developing programs of post-high-school education in off-farm agriculture must be reflected in teacher education.

Business and Office Occupations

It is imperative that studies be developed which will indicate (1) the number of institutions preparing business education teachers, (2) the number of teachers certified, (3) the number actually teaching, (4) the number of teachers teaching vocational education classes, and (5) the steps necessary for teachers to become certified to teach vocational classes. A pilot program to collect such data should be developed and tested in at least one State in each of the nine regions of the Department of Health, Education, and Welfare.

The effectiveness of business and office teachers' contribution must be increased through more systematic and appropriate preservice and inservice teacher education programs. These programs must define and delineate their responsibilities as vocational teachers of office occupations. Many of these 60,000 teachers, regardless of whether they are called business teachers or office occupations teachers, regardless of whether they consider themselves general educators or vocational educators, will continue to teach courses that, in fact, enable boys and girls to secure an entry job in an office occupation.

Consequently, in considering the scope of the problem in business and office occupations it is imperative that the realities of the present market conditions be understood. Changing the name of a program does not change what happens to students as they enter a business teacher's classroom. *Almost all of the current 60,000 business and office education teachers need inservice experiences that will update them in terms of needs for officeworkers.* Immediate steps should be taken to provide summer institutes for current business teachers to help them become more adequate office occupations teachers.

Distributive Education

The typical distributive teacher education program has been staffed with only one individual who is expected to perform all the duties necessary in the professional phase of teacher education (research, curriculum development, program development, materials development, instructional systems, supervision of interns or student teachers, interdisciplinary coordination, evaluation, and professional improvement). The limitations are obvious, and the ability of one person to deal effectively with the varied facets of education and business as they apply to a distributive teacher education program is necessarily limited.

Despite the limitations of a program staffed with one person, recent additions of teacher education programs have been in new institutions and still with a one-man staff. It appears that State agencies feel that additional teacher education may be gained more by limited-capacity programs than by strengthening the capacity of existing programs, or by putting all the effort into one institution.

No single design could accomplish the ideal distributive teacher education program, but a model might permit modification and adaptation by States and institutions to achieve appropriate values.

The development of evaluative criteria for distributive teacher education would aid considerably in improving the quality of programs. If such an instrument could be developed, it would, if seriously used, give some assurance that existing programs maintained or improved their quality, and would prevent the initiation of programs that are poorly organized or of substandard quality. The preparation of teachers is crucial to the future development of youth and adults who desire working careers in distribution and marketing.

Home Economics

Home economics educators believe that any person who is given the full responsibility for teaching must have good preparation in the psychology of learning, more than a common sense view of individual differences, an integrated philosophy of vocational education to serve as a guide in making consistent decisions about curriculum and teaching, and good comprehension of the underlying principles of the occupation. It is, therefore, inconceivable to give full responsibility for teaching to people who have only skill in the occupation but lack this kind of background.

On the other hand, it seems apparent that persons who have been successfully employed may have skills they can teach by demonstration far better than a person who has not had the occupational experience even though they lack professional teaching competence. Therefore, ways should be planned to use cooperatively in some programs the skills of both experienced workers and professional teachers. For some occupational areas, persons of three or four levels of professional preparation could be incorporated into a team of teachers.

Early leaders in home economics declared, "It is also more generally accepted than ever before that preemployment training can never turn out a finished product. Training in service during actual practice of the vocation itself has much to do with successful teaching. The trends would indicate a more careful determination in the next few years of just what contributions the teacher-training institutions can best make to the prospective teacher and what must be acquired by her through experience on the job, with an accompanying training in service."[2] The emphasis on gainful employment brought about by the Vocational Education Act of 1963 brings this sound statement into focus. The problem is not one of adapting household skills to wage earning situations. The problem is teaching girls and women the skills, knowledge, and attitudes needed to get and hold a job. Teacher education programs will have to be viewed from a vantage point outside the kitchen window if home economics teachers are to wholeheartedly accept their new mandate and continue to fulfill their former one.

Certain vocational educators question the assumption generally accepted by home economics educators that teacher education for homemaking and for wage-earning occupations using knowledge and skills of home economics can be one coordinated program. Because of questions raised, objective evidence is needed about the extent to which one program can or cannot serve both aspects of teacher education.

Technical Education

Competing with industry for technical talent is most difficult, and the prospective instructor does not look forward with enthusiasm to the time he must devote to develop teaching skills. The critical situation now existing will require sound programs for inservice teacher education. Opportunities for the development of technical education programs in the rapidly expanding community junior colleges and post-high-school institutes will create a demand for teachers that cannot now be supplied. The requirements for equipment and facilities are difficult to fulfill; however, staffing with competent teachers is most critical. Means must be found in a number of States to provide more inservice teacher education for those involved in the training of technicians.

Technical developments and automated procedures, generally computer assisted, in the health occupations field will add to the teacher problem. The health related fields are experiencing such a shortage of personnel that recruitment of instructors from this area does not appear to be promising.

Nearly all areas of occupational preparation in our technological society are becoming more specialized, and the worker in business and industry requires training in depth. The information explosion demands that today's technical worker possess an opportunity for continuous updating of his technical information. A very close working relationship between the training institution and business, professional, governmental, or industrial establishments employing technical workers must be established to handle the new problem of training workers for occupations presently unnamed that may exist for only 3 to 5 years. This situation may be best faced by the employment of a large number of part-time instructors from industry or full-time teachers who can be granted a leave of absence. Another way to face the problem is to contract with business and industry for personnel and facilities. If industrial, business, and professional personnel are to serve as technical instructors, some method of providing inservice teacher education and assistance is most essential.

Contracting for educational facilities and the services of technically qualified personnel is receiving considerable attention by administrators of technical education programs. The well-known cooperative education programs with business and industry too frequently fall short of the stated educational goals. Contracts with industrial firm possessing the proper equipment and operating personnel insure a degree of success not always attained by cooperative arrangements. Contracting for the services of instructional personnel poses a supervisory problem and a problem of providing the technically qualified individual with instructional know-how. If this help is provided, it must be done in minimum time.

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[2] Edwin A. Lee. "Objectives and Problems of Vocational Education." New York: McGraw-Hill Book Co., Inc., 1938, p. 137.

Patterns of scheduling classes or laboratory sessions, the size of classes and the use of all the emerging new teaching media extend the effectiveness of the well-qualified technical instructors. There needs to be some mix of the large class teaching techniques employed by the universities with the small class discussion and individual instruction found in most technical education programs. With no promising relief in sight for the increasing need for technical instructors, effective use of the available talent demands the use of all available new instructional devices and techniques. A new look must be taken at inservice teacher education practices if effective assistance is to be provided to both full-time and part-time technical teaching staffs. Providing technical laboratories for new and ever changing technologies may require educators to examine new approaches to facility planning. A group of laboratories with basic testing, production, and service facilities could serve a number of technological areas and be used to support future technical requirements. For example, a laboratory should not be specifically designed for the training of medical technicians. A more desirable approach would be to provide several laboratory facilities for several medical related occupational areas. Instructors must be prepared to serve in programs utilizing several laboratories and a variety of teaching media.

Trade and Industries

The teacher training activities of trade and industrial education must be further expanded if the challenges of the Vocational Education Act of 1963 are to be met.

One of the major needs is to bring the standards for becoming a trade and industrial teacher and the professional training to a more uniform level throughout the Nation. Standards vary from State to State. Far too many professional teacher education programs have shown little or no change over a long period of years.

There is need for a better exchange of practices between the many trade and industrial teacher training programs. This could be accomplished through regularly scheduled yearly teacher education meetings. Leadership and guidance for these meetings should come from the national level.

Another major need is for increased inservice activities. Inservice education should become a way of life for the trade and industrial teacher. Teacher education should become a process of lifelong learning. Teacher training staffs should be increased to make professional help available on an itinerant basis in many communities where the number of day and evening classes justifies it. There is need for support for teacher education from within the family of vocational educators. Lip service is not enough—there needs to be action!

This must first become the practice at the national level—in the U.S. Office of Education. This will have to be done through staffing and support. State leaders then must be encouraged to follow the example set by the U.S. Office of Education.

There is a need for teacher education programs for part-time teachers in many States. The objective for all teachers—full time or part time—in all occupational programs should be that the teacher has teacher training.

Projected Needs

The following actions appear to be imperative in the future:

1. There is an increasing need to provide some kind of stipends for persons preparing to teach. Stipends are also needed to assist teachers in participating in inservice programs.
2. Plans should be made for regional teacher education centers. This system would help States with less wealth to provide a better teacher education program for their instructors.
3. There is need for area of national proficiency tests to ascertain occupational competencies a prospective teacher has developed or needs to develop.
4. Teacher education and State supervisory staffs should jointly develop an instructional aids and materials resource center. Some instructional materials must be developed locally; however, all teachers have need for materials which can be developed more efficiently by a specialist. A regional center for instructional aids and materials appears logical.
5. The use of local teachers as supervisors of student teachers should be continued. Higher standards, however, should be set in the selection of student teacher supervisors. Funds should be available to defray the costs of bringing them together

periodically for conferences, workshops, and observation purposes.

6. There needs to be a plan for reimbursement that would assist school districts to employ some teachers prior to their teaching terms so they may have time for preparation before going into the classroom.

7. There needs to be strengthened national leadership (USOE) for teacher education. This should be done by providing adequate staffing, finance for operation and travel, authority to do the job, and support from top administration.

In addition to the suggestions above, it is believed that the following would improve vocational teacher education:

1. Development of a system for preparing (employing and certifying) teachers who work at different levels, who have different levels of preparation, and different kinds of teaching responsibilities.

2. Careful evaluation of the research programs in vocational education, including experiments with ways for providing teaching and occupational experience. Needed are better bases for determining the amount and kinds of practice teaching and occupational experience required for preparing the excellent teacher.

3. Critical analysis of the possibilities offered by programed learning techniques. Audiovisual devices, including both open- and closed-circuit television, computer assisted instruction, and programed learning texts could be most valuable in teaching vocational-technical skills. Many programs are being developed and techniques are being perfected by educational institutions, business, and industry that could be utilized.

Innovation in the use of new teaching media is a priority item for consideration by teacher educators serving in the vocational and technical education field. The use of programed learning devices and computer assisted instruction cannot lack professional excellence. The average American citizen is accustomed to viewing television programs produced by skilled production specialists and will not be impressed with substandard visual or audio device presentations. By the same reasoning there is little doubt that anything less than excellence in the use of all new teaching media will be effective.

Recognizing that vocational and technical education places special emphasis on some teaching techniques, a need exists to find ways to improve instructional procedures that may be effective in all areas of vocational education. Results obtained through research need to be analyzed by State institutions with the primary responsibility for teacher education. Programs should be developed by institutions of higher education working with State departments of education to increase the effort in providing teacher education services to technical instructors.

4. Provision for prospective teachers to gain more experiences in working with many types of youth and adults, to get acquainted with various kinds of social and economic living conditions, and to work in hospitals, businesses, industry, welfare agencies, and other similar locations are important.

5. Development of courses especially designed to prepare teachers for post-high-school programs in area vocational schools, community and junior colleges, and technical institutes is needed.

6. Provision should be made for tailored preservice programs for persons who have developed some, but not all, of the competencies needed by teachers. Such programs can allow mature men and women to roundout their preparation unhampered by tradition-bound ideas of prerequisites. For example, persons with professional competence as teachers and basic knowledge in subject matter are given an opportunity to get more depth in the subject matter of a particular occupation and to develop some occupational skill through a planned, practical field or work experience. Or a prospective teacher who has a good general education, knowledge of subject matter, and occupational competence should be able to take courses to develop the theory and art of teaching. Intelligent and skillful workers may be given opportunity to get some additional general education and depth in subject matter if they have achieved, through means other than formal education, much of the elementary work included in the undergraduate program.

Areas for Consideration

Areas which need to be given thoughtful consideration in the development of teacher education programs are summarized below:

1. *Curriculum.* The teacher education program should be concerned with the total preparation of a teacher. In so far as feasible, the program should provide through its department or through the utilization of other departments of the institution all of the content needed by vocational personnel at any level. Curriculum resources should include general, professional, and technical offerings. Individual

courses in the curriculum, regardless of how packaged, should be reviewed periodically by a panel of advisors composed of vocational education personnel from various services, other educators, and representatives of government, business, industry, and other employing agencies.

2. *Staff*. The teacher education program should be staffed with sufficient personnel to permit each to develop the degree of expertise needed for a wide variety of educational situations.

The staff should include, besides professional teacher educators, specialists who could deal with selected aspects of the program, supporting clerical and secretarial staff, and project associates and assistants as needed to maximize the total program effectiveness.

The staff should be representative of differing backgrounds and preparation. The teacher education program should have access within the institution to all other professional staff that might contribute to the work of the program. (The implication is that an institution with limited resources would not be a likely spot for vocational teacher education programs.)

3. *Facilities*. The facilities for a teacher education program should be dictated by the needs of the curricula, the staff, and the services to be provided. The specific proprietorship of facilities is not implied, only that teacher education personnel have ready and unlimited access to necessary facilities. It is essential that vocational teacher preparation programs have facility identification, that there be proximity to the different vocational teacher education departments, and that such facilities be flexible to permit frequent modifications and adjustments to support curricular changes.

4. *Services*. Services to be provided by the vocational teacher education program should be a matter of planned effort among all vocational teacher education programs, the various State agencies involved, the institution administration, and the people to be served. The teacher education staff should identify what services they have the capacity to provide within the department, what services can be obtained from other areas of the institution, and what things are not within their capability. No attempt should be made to provide services beyond the capacity of the department. If there is need for the service and it is not available, then staff, facilities, and offerings should be planned to make such service available.

Leadership Roles

Mindful of the imperative necessity for strong national leadership in teacher education, vested in the Division of Vocational and Technical Education—a function that needs both expansion and emphasis in the division—functional motivation for new designs of teacher education must arise from within the States.[3]

State directors of vocational education should take the initiative in creating the environment necessary for maximum progress. Again, it is not possible to delineate here all of the steps that could be taken. However, an imaginative program of expanding and developing teacher education services could most probably get under way with leadership from the State department of education in cooperation with teacher training institutions. Critical attention to the problem, by those most directly involved, could result in an economy of time by combinations of courses, or more extensive use of existing courses in other disciplines. Planning for inservice programs, which are dependent upon the subject matter, could be developed for vocational teachers as a total group. The program of teacher education for vocational teachers could be much improved if the total group of teacher educators would concern itself with the common problems and objectives of teacher education. The teacher is still the most important asset of vocational education—the program cannot rise above the ability and inspiration of the teacher.

Preparation of Teacher Educators

Teacher educators have been recruited from among teachers who seemingly have developed some leadership ability. Valuable as such qualifications are, they are not sufficient for the leadership roles of the teacher educator. Teacher educators must have additional preparation in the following areas:

1. *Research*. Teacher educators are not effective when they are continuously engaged in discovering and testing educational methods. It is absolutely necessary that they be able to glean from research in their own and related fields information which can be applied in teaching and teacher education. Additional depth or updating in subject matter (technical knowledge) in the occupational area, as well as training in research methodology, is often required for the development of the skill needed to apply research findings to teacher education.

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[3] This dos not imply that each State must rely entirely on its own resources; it is to be expected that in some areas groups of States join resources to provide more effective programs.

2. *Curriculum theory.* The teacher educator needs to be able to develop and defend curriculum theory for vocational education. This requires that the preparation of teacher educators includes advanced study in curriculum theory with an opportunity to examine curriculum theories and analyze the components of curriculum (objectives, learning experiences, content, teaching materials, and evaluation).

3. *Evaluation.* Not only does the teacher educator need to be sufficiently knowledgeable in methods of evaluation to assist teachers in learning how to assess progress of their students, but he must be able to plan for evaluations of curricula, teaching techniques, and the ultimate impact of educational programs.

4. *Philosophy.* Depth of study in philosophy of American education and of vocational education will provide the only sound bases for making many of the decisions regarding vocational education that will need to be made by teacher educators.

The acute shortage of teacher educators in all vocational fields points to the need for finding ways to encourage qualified persons to get the additional training needed for teacher education positions. For many potential teacher educators, additional training is feasible only if adequate scholarship or fellowship support is available. Salary recognition for additional training has been made possible in some institutions, but in most instances it is not adequate to entice vocational educators from teaching jobs into teacher education.

A further deterrent in recruiting persons for the advanced training necessary for teacher education may be the lack of appreciation with which many vocational educators regard advanced study. Advanced study should be encouraged without losing sight of the goals for vocational education.

Implications—The Program of the Future

Adjustments in teacher education must take into account at least five major elements that have a significant bearing on the development of vocational education.

1. *Sources of Vocational Teachers.* In some areas of vocational education, teachers are prepared in a baccalaureate program in the skills and knowledges appropriate for the occupational area; this background is frequently supplemented by some kinds of work experience in the occupational area or in a related field. Teacher education programs of this type may need to search for persons who have already become established in the occupational field and encourage them to enter the field of teaching.

In other areas of vocational education, teachers are selected from an occupational area(s) and are certified for service by the State upon completion of the professional education requirements or on a postponement of requirements basis. The major criterion for selection is occupational competency based upon an analysis of the person's work experience, or upon completion of a comprehensive occupational examination, or both. In recent years projects have combined the work experience with a baccalaureate degree program.

Irrespective of the arrangements for selecting teachers, it is imperative that any present system be modified to enlarge the sources from which teachers are selected. It is obvious that such changes will require a comprehensive review of State certification practices, and other appropriate adjustments. An anticipated 150-percent increase in the number of teachers needed during the next decade makes it mandatory that States consider this problem a major priority item.

2. *Flexibility in State Certification.* Increasing the scope of vocational education to include educational needs of a variety of disadvantaged groups (poverty, hard core unemployment, and the like), and extending the range of occupations for which vocational education is provided will most certainly involve flexibility in present teacher certification arrangements. Such flexibility can be achieved without damaging desirable standards of excellence. Principles of teacher certification will need to be reinterpreted to establish the requirements of a variety of new teaching positions. In short, the social and economic need for vocational education cannot be blocked by rigid certification requirements that limit the field of choice of potential instructors.

3. *Inservice Teacher Education.* Providing inservice education for vocational education teachers is one of the formidable problems facing vocational education in the future. Enrollment growth of vocational education; expansion in the numbers of occupations and groups to be served; and an environment of social, economic, and technological unrest and change all point to an imperative need of sensitivity for teacher upgrading in order that teachers may cope with the many new situations presented in the classroom, laboratory, and shop.

Mindful of the importance of strong national leadership in the area of inservice education, the major responsibility for doing something about providing inservice education rests with the States. Programs to be provided for teachers (also administrators and other education management personnel) include a variety of conferences, workshops, seminars, courses, projects and other organized efforts covering a variety of subject matter areas offered throughout the year and almost around the clock. The motivating force behind an imaginative inservice education program is the State office responsible for vocational education. The program should follow a constructive master plan and should become a part of the regular effort in teacher education; it should not be viewed as a crash approach.

4. *Selection and Upgrading of Teacher Educators.* One item that seems to be forever getting lost is concern for the plight of persons who carry the burden of quality in teacher education — the group called teacher educators. This group, always in short supply, plays a key role in the general development of vocational education in the Nation. It is not possible to provide at this point a prescription with specific directions to either approach or to solve immediate problems of the teacher educator. This is a problem of national concern requiring massive effort at the Federal level.

There is the need for one or more institutions to establish a high-level program of teacher education, to bring national leaders in vocational education, guidance, school administration, and the like to a campus annually to provide an innovative atmosphere in which teachers and administrators could work. This would provide a kind of national forum where vocational educators could unite on certain issues, philosophies, and programs. There are points of view about basic concepts in vocational education that will never be resolved with teacher educators depending upon localized points of view.

5. *Emphasis Upon Vocational Teacher Education.* It has been noted that teacher education grew in response to the occupational categories defined in the Smith-Hughes Act. Subsequently, other categories, such as technical education and practical nursing (or health occupations), have tended to move toward identity in teacher education. It may be assumed that other occupational categories, to be developed in the future, will show similar tendencies. The long-term result of these trends would therefore multiply the number of separate teacher education programs.

Although the substantive content of the various areas of occupational emphasis is different, it does not follow that a large part of the professional content of teacher education would show similar differences. Philosophy of vocational education, as one element in the professional part of teacher education, would not differ among the occupational categories.

In keeping with the desire to focus attention upon vocational education, in its large sense, effort needs to be directed toward vocational teacher education.

First steps in this direction were taken by the U.S. Office of Education in organizing a series of teacher education sessions associated with the nine regional conferences beginning in the spring of 1965 which encompassed all services. Program specialists of the Office representing the several services worked as a committee to prepare the agenda, identify program personalities, and develop the discussion techniques opening communication channels among participants representative of all the State services.

An additional step was taken by the Center for Vocational and Technical Education (Ohio) late in September 1967, when it sponsored a vocational teacher education seminar in Chicago.

Regional conferences are not likely to be initiated by the Office of Education in fiscal year 1968. Therefore, the Division of Vocational and Technical Education in the spring of 1968 will conduct a national teacher education conference which will stress vocational teacher education. The objectives of this conference will include the attempt to find commonalities in teacher education.

The preparation of vocational education coordinators, supervisors, and directors represents an additional area in which vocational education in general should be stressed in concert with areas of specialization.

Achievements

- Teacher educators during the half century of federally reimbursed vocational education have maintained their enthusiasm for excellence in teaching.
- Teacher training programs and recruitment techniques in the past have been capable of keeping programs staffed with competent and well-prepared teachers.
- Despite the lack of scholarships, stipends, or fellowships to support the teacher and his family, hundreds of individuals have earned one or more degrees in summer school or in evening teacher training programs.
- Teacher educators have demonstrated both capability and enthusiasm in carrying out research projects and curriculum material development as a result of the special funding under Public Law 88–210.
- Teacher training institutions have contributed greatly to the success of the National Leadership Development Conference conducted during the past 10 years which has resulted in many administrators hav-

ing received their initial training in administration prior to advancement.

- There have been some exemplary programs at teacher training institutions wherein two or more services have worked together to provide basic preparatory courses.
- Experimentations with cooperative type education, internships, and the like have been undertaken with extremely limited budgets. There is the need to magnify these efforts and to continue the expansion of pilot projects to multiply the effort in developing new teaching personnel.
- Some States have done a very commendable job of providing inservice and preservice training for teachers through itinerant teacher trainers, workshops, institutes, and summer programs.
- Certain States have provided the courses necessary and the workshops, conferences, and short intensive training important to teachers in curriculum planning and instructional material development and use.
- Leadership training provided by the U.S. Office of Education has benefitted many administrators.
- States are showing unique capability in devising ways to staff teaching positions where teacher shortages exist. Studies of the more productive techniques should reveal patterns for use on a long-term basis and with a desired degree of productivity for the effort expended.

Limitations

- Financial assistance for teachers enrolled in undergraduate and graduate study has been in short supply, which keeps many interested persons from reaching the optimum of their capability.
- Proliferation of teacher education programs among universities and services has emaciated rather than enriched course content, staffing patterns, and resources.
- Expenditures for teacher education have not been ample enough to provide services to part-time teachers, persons working with students with special needs, other ancillary service workers, and teachers who need updating in service.
- Certification requirements have continued to reflect provincialism and have lacked the universality needed for a broadly expanded national program of vocational education.
- Teacher educators have not been developed in sufficient numbers nor in keeping with an orderly plan that encompasses research, curriculum theory, philosophy, leadership skills, and evaluation techniques.
- Sources from which teachers have come have been rather narrow. Enlarged and innovative practices will be required to keep recruitment abreast of demands.
- Federal funding has not been available to provide needed stipends, fellowships, and many additional resources for teacher education.
- Broad cooperation between business and industry and teacher educators has not taken place. New approaches, enlarged organizational plans, and a systematic approach should be financed and implemented.
- There has been a continued development of teacher education on the basis of occupational categories rather than a concentration of programs serving all services on one campus. This practice does not foster the concept of a broad view of vocational teacher education.

RESEARCH

It was recognized at the beginning of the vocational education movement, in 1906, that programs of vocational education would need special study. After 1917 this need was provided by the staff of the Federal Board for Vocational Education. Attention was directed largely toward preparation of instructional material—a backlog of tradition, literature, and experimentation was not available, at that time, upon which to base designs in vocational education.

During the first two decades of vocational education, under the influence of Federal support, research effort continued to emphasize preparation of instructional materials which the States used in conducting their programs of vocational education. Now and then summary studies were conducted, and reviews were made of particular facets of vocational education, but the development of a pattern of study that might be described as research did not exist. Research was limited to occasional reports from the Federal Board for Vocational Education, and later the U.S. Office of Education, and from the efforts of a few enterprising scholars in the universities and in State departments of education.

Lack of research in vocational education was mentioned occasionally prior to World War II, but few people were genuinely concerned. However, following the war the need for research was clearly evident, and the quantity increased, not as a coordinated whole but as widely scattered efforts of those persons in vocational education who could see the fundamental value of research. Despite the increasing number of masters and doctoral studies, vocational education had been research starved for four decades.

Research and the Panel of Consultants on Vocational Education

The Panel of Consultants on Vocational Education called attention to the research situation:

> Although a considerable amount of research has been carried out, it falls far short of meeting current needs.
>
> Some compilations of completed research projects have been made at the national level—largely graduate student theses—but no comprehensive reporting has been done, and little has been done with respect to coordination of research activities.
>
> Research projects in vocational and technical education have largely been confined to those of normative-survey type, with little attention paid to experimental research under controlled conditions.[4]

Evidence at hand indicated that business, industry, and, in fact, nearly every element of the social structure was moving toward new developments on the basis of comprehensive research results. Technological advance, characteristic of the 1950's, had been supported by research. It was not surprising, therefore, that the Panel of Consultants on Vocational Education should emphasize research as one of the items related to improvement of the national program of vocational education.

It was recommended that:

> Extensive research and program development be performed where adequate facilities and research personnel are located or can be assembled. Such centers would usually be located at universities. Developmental projects will more often be located in local school districts. These activities can only be performed where persons are knowledgeable concerning research methods and have facilities for proper control and evaluation of the activities under study.
>
> Research be encouraged, initiated, and coordinated at the national level. The results of research and development should be made available on a nationwide basis. An effort should be made to prevent duplication or extensive overlapping of research efforts.[5]

Concerning financial support for research the panel recommended that:

> Federal funds be made available to establish and operate selected centers to perform research, develop pilot projects, and encourage experimental activities to improve vocational and technical education programs. These funds should wholly support these centers performing services of value to the national program. The results of these activities should be made available to all States. These funds should be available to individual States with research or developmental needs unique to their State, if fully matched by State and/or local funds.[6]

The Advisory Council's Review of Research

In studying the research program in vocational education, the council reviewed all completed projects and all proposal summaries for projects that had not been completed at the time of the review.

In general, the point of view prevailed that research in vocational education should not be narrowly conceived and should cover a wide range of the research continuum. Attention was to be devoted to both practical and theoretical studies of the students, the school program, and the vocational opportunity. The priority areas which were thought to be appropriate for the general projection of research effort were thought to be appropriate also as a means of reviewing the research program.

It was not possible to make an objective evaluation of each individual project due to the lack of appropriate criteria for such evaluation and evaluative instruments which could be applied. It was obvious that some researchers achieved their goals more effectively than others. Also, it is probable that the direction of research effort has been affected significantly by the interests of the researchers concerned.

The research program priority areas are not completely separate and distinct. Some projects were found to be related to more than one priority. The priority areas were so designated as a means of providing guide lines for general identity of research emphasis.

A compansion was made between the research projects for which funds were allocated and the nine major recommendations of the panel of consultants, to determine the extent to which these recommendations had been carried out by the research program. Each project was assigned to one of the recommendations made by the panel. In many instances the distribution was arbitrary, and in other instances, the specific recommendation of the panel, although listed under one major heading, had meaning across-the-board in vocational education. The point is, that an exact way of making the distribution could not be determined. Projects relating to research coordinating units, research centers, and other projects did not seem to be related directly to the nine categories and were deleted. Table 92 accounts for approximately 75 percent of the total number of research projects.

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[4] U.S. Department of Health, Education, and Welfare, Office of Education. "Education for a changing World of Work," OE–80021. Washington: U.S. Government Printing Office, 1963, p. 202.

[5] *Op. cit.*, pp. 243–244.

[6] Op. cit., pp. 262–263.

Research projects were allocated on the basis of priority areas and not on the basis of the panel recommendations. Nevertheless, table 92 shows that each of the recommendations did receive some attention. The number of projects directed toward "youth and adults unemployed or at work" appears to be small when compared with the fact that this area represents roughly half of the vocational education program. Apparent neglect of this area is accounted for by the fact that substantial research funds from MDTA, and other sources, had focused on the problems of employed and unemployed groups; it was unnecessary to make this a major area for study at this time.

TABLE 92.—*Research projects funded, fiscal years 1965–67, in relation to panel recommendations*

Panel recommendations relating to—	Projects	
	Number	Percent
1. High school age youth	107	31.8
2. Youth with special needs	27	8.0
3. Education beyond the high school	39	11.6
4. Youth and adults unemployed or at work	10	3.0
5. Services to instructional programs	23	6.8
6. Curriculum and instructional materials	21	6.3
7. Occupational information and guidance	57	17.0
8. Evaluation, reporting, research and development	24	7.2
9. Leadership and administration	28	8.3
Total	336	100.0

Allocation of research projects seems to have been largely determined on the basis of the general areas defined by the seven priority areas. Each area is broad and, therefore, opens up almost an infinite number of possible research topics, some of which—as individual topics—may not be related to any essential requirement in the operating programs of vocational education; nevertheless, the topic can be classified under the general priority area. Dialogue about the nature of research does not find ready agreement. However, researchers in vocational education are in almost unanimous agreement that concentrating all research activity directly upon the operating program would not be appropriate; similarly they believe that concentrating all the research at a place on the research continuum where the results would have no immediate impact upon vocational education would be inappropriate.

The great need for program related research was a pressing requirement in 1963, it is even more urgent in 1967. The great need for more basic studies was obvious in 1963, but it is relatively less urgent now, since a start, at least, has been made on studies of this type. Clearly the greatest need now is for research which will lead directly to modification of vocational education programs, though this is in no way to suggest that the basic research program should be cut back.

Leadership conferences and training programs for specific groups in vocational education have had an impact upon vocational education, but the nature and extent of this impact are difficult to measure.

Implementation and Dissemination

The fact that the great majority of projects are on the university level suggests clearly the necessity of some type of coordination effort directed toward implementation of research fundings. Without some deliberate means, probably in every State, to direct the results of research immediately toward program improvement, the time lag between research completed and utilization will be increased to the point where application of the results will be questionable.

Despite the relative merits of the various avenues for dissemination of research information, the fact still remains that the vast majority of vocational educators throughout the Nation are almost totally unaware of the nature of the research program and its product. After 2 years of operation under the Bureau of Research, research output has not reached the operating program, and thus the impact and influence of research upon vocational education is small. The first efforts in dissemination have provided the means whereby researchers talk with researchers—the point at which change in vocational education must occur has scarcely been touched. It is at this point that research coordinating units could be effective in dissemination of research information. Although identified as coordinating units, it would appear that the maximum contribution might be more appropriately developed under the title of implementation units. Actual coordination of research activities appears to be a rather minor role compared to the opportunity to facilitate the process of utilization of research information within a State.

Administration of the Research Program

Moving research for vocational education to the Bureau of Research was made on the pretext, contained in the White House Task Force Report, that such a move would make it possible to:

1. Combine all research into one bureau. (Except research for the handicapped, which is established by law as a function of the Bureau for the Education of the Handicapped.)
2. Free the research program from "extraneous functions."
3. Provide maximum in-house capability to develop, stimulate, and evaluate research.
4. Better plan and program funds available in relation to Office-wide priorities.
5. Provide for more general research which would not be directly related to program needs.

This move divorces research from direct influence of the operating program—exemplified by the Division of Vocational and Technical Education. Furthermore, the location of research outside the operating program increases the possibility of failure to recognize properly the immediate needs of the ongoing program of vocational education.

Although liaison relationships have been established between the two divisions, the final authority to fund research in vocational education rests with the Bureau of Research.

Full Funding for Research

Although the Vocational Education Act of 1963 states succinctly that 10 percent of the funds shall be reserved for research, appropriations for fiscal years 1967 and 1968 have fallen far short of this amount. Vacillating practices applied to the appropriations for vocational education research have caused unnecessary shifting of research plans, goals, and practices and have created the opportunity for ineffective and inefficient use of funds. Failure to guarantee the full amount of funds provided by law will continue to aggravate a national attempt to improve the effectiveness of vocational education through research.

Division of the Research Funds

It has been pointed out previously that the total research fund in vocational education is administered by the Bureau of Research. This condition causes two major problems: (1) Appropriate attention is not given to the support of experimental, demonstration, and pilot programs at the operating level; that is, the actual schools where vocational education programs are being conducted; and (2) the Bureau of Research, Division of Comprehensive and Vocational Education Research, becomes involved in activities which are properly the function of the Bureau of Adult, Vocational, and Library Programs, Division of Vocational and Technical Education. An example of such an activity is leadership development training programs for State and local personnel.

These problems can be resolved by an appropriate division of the research fund so that the Bureau of Adult, Vocational, and Library Programs, Division of Vocational and Technical Education, has the authority to plan, organize, and conduct research programs related to the specific needs of the operating program, which at present are not receiving the attention they deserve.

Review of Funding Procedures

Procedures concerning the decision to fund research projects need review. The particular point at issue—assuming availability of funds and reasonable research design—is the basis used to determine if the research is actually necessary, and if it has potential value (immediate or future) for vocational education.

The whole idea behind the research fund was to provide a basis upon which an attack could be made on significant problems in vocational education. Whether or not this is in fact accomplished depends upon who makes the decisions about funding.

Review of funding procedures should include consideration of the competency of individuals to make judgments about the need for research from the standpoint of the program of vocational education. The panel concept of project review has merit because decisions are made on the basis of personal group reaction. The field reader concept of project review lacks this valuable personal element.

Achievements

- Research projects during the 3-year period from fiscal year 1965 to fiscal year 1967 have covered a broad area of the research continuum.
- Hundreds of researchers in related disciplines have participated in vocational education research.
- A new era in research mindedness has developed in vocational education throughout the Nation.
- Research centers have taken major steps in the involvement of vocational education personnel in con-

ferences and seminars and have produced a number of significant staff reports.

- Research centers have developed a broad and comprehensive research and evaluation program which promises to have maximum impact on vocational and technical education throughout the Nation. The centers are now nearly fully staffed and the level of productivity is expected to be accelerated during the next fiscal year.
- Research coordinating units have been developed in 44 States in support of the growing program of vocational education. Although such units have been in operation only a short period of time, their potential contribution to the development of vocational education through research holds much promise.

Limitations

- Failure to provide for research purposes the full 10 percent of the vocational funds, as provided in Public Law 88-210, has created inefficiency in the research program, particularly with reference to continuing projects.
- Location of the research program in the Bureau of Research has directed research emphasis away from the operating program.
- Limited funds have been applied to research directly related to the operating program. Such research needs could be satisfied in part by reserving part of the total research fund to be allocated to the States and the operating bureau for experimental, developmental, demonstration, and pilot programs.
- Ways and means have not been provided to actually implement certain techniques and programs discovered through research that are worthy of being made a part of on-going vocational education programs. What is needed is a device to integrate into regular programs sound innovations that research has discovered or developed.

ADMINISTRATION

For 50 years vocational education has looked to the national level as a source of inspiration, information, and administrative leadership. The Federal role in administration is an essential element in the development of vocational education. Growth of the program of vocational education and changes within the Office of Education make it necessary to focus attention upon certain aspects of recent change.

Vocational Education in the Administrative Structure of the U.S. Office of Education

The Division of Vocational and Technical Education is now one of the divisions in the recently created (1965) Bureau of Adult, Vocational, and Library Programs. However, the division and its staff have the same relative position in the structure of the Office of Education as when the division was a part of the Bureau of Educational Assistance Programs.

Organizational changes within the Office of Education and growth of national interest in the occupational preparation of youth and adults have brought vocational education into the purview of offices other than the Division of Vocational and Technical Education. For example, the Office of Program Planning and Evaluation, and the National Center for Educational Statistics have an influence upon vocational education within the structure of the Office of Education, and both groups prepare reports concerning vocational education. Although these influences can be viewed as desirable, their effectiveness in the interests of vocational education depends greatly upon coordination and communication with the Bureau of Adult, Vocational, and Library Programs.

Present procedures within the Office of Education penalize vocational education in terms of staff and operating funds. Such procedures are not consistent with the size and growing importance of the program of vocational education.

The Panel of Consultants detected the importance of the Federal role in the administration of vocational education and pointed out:

> Educational administration at the Federal level is very complex, and requires personnel with the highest caliber of training, experience, intelligence and integrity. The laws involved, the relationships necessary and the financial responsibility make these administrative positions very complex and demanding.[7]

Federal legislation affecting vocational education, enacted in 1963, reinforces the significance of the views of the panel.

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[7] "Education for a Changing World of Work," op. cit., pp. 251-252.

The Division of Vocational and Technical Education

Reorganization of the Division of Vocational and Technical Education in 1964 attempted to structure the division along new lines consistent with additional responsibilities of the 1963 act. Other changes in the division structure occurred at later dates. In addition, decentralization of responsibility through the establishment of the regional offices proceeded simultaneously with changes at the central level. Because decentralization was a new and untried procedure so far as the division was concerned, it introduced uncertainties and confusion about ultimate responsibilities and relationships. In order to relieve this stress, statements of purpose, objectives, and distribution of functions and activities, in accord with the regional decentralization plan, were prepared by the Division of Vocational and Technical Education in September 1967, as follows:

Statement of Purpose

1. To provide national direction to achieve stated or implied goals of vocational education in accordance with federally enacted laws, rules and regulations, and as otherwise directed.

2. To provide policy, plans, direction, technical advice, and assistance and evaluative services to effect balanced and coordinated programs of vocational and technical education attuned to the educational needs of the people in our society and the occupational requirements of the world of work.

3. To provide the national leadership essential in effecting the appropriate role and direction of vocational and technical education in the broadest aspects of education and occupational training as suggested by such factors as: (1) Technological advances; (2) occupational changes, and related job opportunities; (3) rapid population growth; and (4) socioeconomic changes.

Objectives

1. To assist in shaping and interpreting national policy with regard to the educational aspects of vocational education manpower policy and occupational requirements of the Nation.

2. To set policy for the administration of vocational education within the framework of the policies emanating from the acts, Department of Health, Education, and Welfare, Office of Education, Bureau of Adult, Vocational, and Library Programs.

3. To develop and implement a systematic approach to planning, organizing, directing, coordinating, and evaluating vocational education, including provisions for an annual plan of operations.

4. To develop and implement a national clearinghouse for collecting, organizing, evaluating, and disseminating data, and information pertinent to vocational education programs attuned to the world of work.

5. To maintain national baseline data which will make it possible to determine status, and to make valid program and budgetary projections, in terms of occupational trends, requirements and employment opportunities as well as rapid technological advances and population growth.

6. To promote programs of vocational education designed to meet the needs of persons of all ages in all communities of the State.

7. To initiate, coordinate, and maintain cooperative relationships with those agencies, organizations, and institutions within our society which directly or indirectly affect or are affected by vocational education.

8. To cooperate with and provide a resource to national advisory, evaluation, and ad hoc committees, task forces, and other national and regional organizations and institutions which have an impact on vocational education.

9. To encourage the States to provide work-study programs to serve financially needy vocational students.

10. To provide planning for residential vocational education schools, construction and operation of such schools, and development of administrative procedures.

11. To initiate and promote exemplary and innovative programs for the development of vocational education.

The preceding plan represents a suitable program of work for the division. The need is for helpful activity on the part of the Office of Education hierarchy to assist in providing the climate and the funding to carry out the functions, purposes, and objectives to the end that State and local programs of vocational and technical education are improved in quality and breadth of offering.

Statistical Reporting

Converting from a half-century of reporting statistical data in relation to occupations, to include statistical data in relation to educational level and other parameters, is not without problems. Devising a reporting system to produce comparable data from each State and at the same time adjust to the unique conditions of each State is complex indeed. Tables and figures showing enrollment and change for post-secondary, adult, and youth with special needs are indicative of the problems inherent in reporting.

Nevertheless, significant gains in quality and quantity of reporting have been noted. It is imperative, however, that efforts be continued to develop a functional reporting system designed to provide early study of data and early feedback to the States.

Statistical reporting is important, but it falls far short of providing all of the clues needed for interpretation. The drama behind the scenes is lost completely. Therefore, the need is for descriptive reporting which more accurately reflects the changes in programs and processes related to the people served.

To gain a clear view of the various facets of vocational education, an appropriate balance of statistical and anecdotal or descriptive data is necessary.

It is evident from the literature, from consultants who have participated in this study, and from staff and council members' visitations to various localities that changes are taking place in vocational education. However, the occupational categories presently used for reporting purposes do not reflect these changes. The currently available data do not reflect the degree or speed with which these changes are taking place, nor do they reflect the types of change in program content or method.

One of the key points around which discussion takes place concerns the occupational categories of vocational education. These categories (agriculture, trade and industrial, and the like) have been used as a base for organizing, describing, funding, and reporting the total program of vocational education. Because new occupations were developing that could not conveniently fit into the somewhat rigid categories, the Vocational Education Act of 1963 placed the focus on services to people. The direction toward service to people has not solved the problem of categorizing programs.

It is a fact that one can describe the present and immediate future program of vocational education in terms of the so-called traditional categories, because most of the jobs fall within the purview of these categories. It is obvious, however, that new categories will need to enter the reporting structure.

The problem is to develop parameters that have a direct relationship to the world of work, encompassing both services to people and occupational categories. The issue is not immediately to discard occupational categories. They are essential for reporting purposes in order to parallel occupational, labor force, manpower, and census data. It is quite possible, however, that funding may be accomplished more appropriately with reference to parameters other than occupational categories alone. Regardless of the difficulties related to reporting by occupational categories, the reporting requirements should not stand in the way of program development. Although it is necessary for the reporting of vocational education activities to parallel the reporting systems inherent in the world of work, the necessity of reporting by occupational categories should not hinder or prevent the extension of vocational education programs to include all occupations necessary to serve all the people.

Employment Opportunities and Vocational Education Programs

One of the perennial and ever changing problems of vocational education has been to relate the programs to actual labor force needs. This relationship of programs and needs has been achieved largely through the use of advisory committees on the local level, supported by activities initiated at the State level (including a variety of relationships with employment services), and by relationships developed by the U.S. Office of Education among various governmental agencies.

Activities within the States have attempted to develop appropriate relationships between vocational programs and employment needs, and there is no evidence to show that any vocational education program (with the possible exception of home economics) did not lead directly to an employment opportunity. However, the evidence does show that the major effort in vocational education has not always paralleled the greatest need in the labor force.

Coordinating vocational education with changing employment needs is an exceedingly complex task. The Panel of Consultants on Vocational Education, 1961–62, recognized this as a major problem and recommended that it receive attention. The problem of turning preparatory vocational education programs on and off in response to changing occupational requirements has led vocational educators to emphasize the occupational cluster or occupational family approach and work-experience type programs. Adjustment of part-time vocational education programs, for employed and unemployed persons, is relatively easy providing that appropriate coordination is provided between the school and the occupational setting.

Vocational Education Liaison Committee

A committee composed of representatives of the U.S. Employment Service and the Division of Vocational and Technical Education of the U.S. Office of Education has defined the parameters of a workable system:

Labor Demand Summary. The USES will provide annually to vocational educators in the States, a Labor Demand Summary. The summary, which can be keyed to the Office of Education Standard Terminology [8] (by code and instructional area), will provide a variety of data indicating current employment, current job opportunities, and projected requirements—possibly on the basis of 1-year and 3-year projections.

Labor Supply Summary. The USES will assist State vocational personnel in preparing annually a Labor Supply Summary, keyed to the Standard Terminology, and including the following: (1) The currently available labor supply; (2) vocational training output, 1-year and 3-year projections; (3) training output by other sectors, 1-year and 3-year projections; (4) total labor supply available, 1-year and 3-year projections; and, (5) the unmet needs, also projected for 1 year and 3 years.

Labor Supply—Vocational Education Output Detail. This report, for item (2) above, will be prepared in detail by the State vocational services and keyed to the Office of Education code and instructional areas, showing projections for 1 year and 3 years, with a breakdown for the supply from high schools post-high-school programs, adult programs, and programs for youth with special needs.

Significance of the Proposed Projections

Two items of major significance are evident. First, labor demand, supply, and output summaries will all be keyed to the same reference data. Second, vocational education program projections will, for the first time, be possible on the basis of a coordinated system in which all parameters are related to a standard reference system.

State Plans—Projected Activities—Evaluation

The State plan was invented by vocational education. It has been over the years an effective means of identification of Federal-State relationships and of providing an overview of each State's intentions concerning a variety of the elements of vocational education. The exigencies of the present period, however, require some modifications of procedure.

A modified point of view considers the State plan as having two major parts. Part I would be, in fact, the legal contract between the Federal and State Governments and would consist of those items that are essential to establish the foundation elements of the legal agreement. This part of the plan would need revision only when new laws or amendments to existing laws would require restatements of position relative to the legal bases of vocational education.

To maximize the effectiveness of the State planning document within the total context of education, it should be presented to and be approved by the chief State school officer. The document should, upon approval by USOE and the State, receive the widest possible dissemination.

Part II of the State plan would be, in essence, a 5-year projection, updated annually, of vocational education program activities. The intent of this part of the State plan would be to provide maximum flexibility for the State to adjust to its own changing conditions. Part II would become, in fact, a planning document, based upon previous achievements and leading toward the future program in the most realistic manner possible.

The planning document should be developed in cooperation with appropriate representatives of the actual operating program of vocational education so that it does, in fact, represent the considered judgment (consensus) of those persons directly involved. (Reports reaching the advisory council indicated that in some instances the State plan had neither been widely circulated, nor had opinion of operating personnel been solicited.)

Review, compilation, and dissemination of part II data, from all of the States, by the Office of Education could provide information that would serve as a guide to each of the States in checking their own program development with that of other States.

Inherent in the total process of State planning is State evaluation. Evaluative dimensions should be developed at the Federal level, involving appropriate State and local representatives, in order to provide an objective evaluative system that can be used in each of the States and which can be combined into a national evaluation.

Section 4(a) 6 of the Vocational Education Act of 1963 provides for the expenditure of Federal funds for a variety of services for the improvement of the vocational education programs. Because the reporting system does not provide a categorical breakdown of these services it is difficult to assess exactly what has taken place.

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[8] U.S. Department of Health, Education, and Welfare, Office of Education. "Standard Terminology for Instruction in Local and State School Systems," Third Draft, May 1967. (For Selected Distribution.)

Within this section of the act, provision is made for "periodic evaluation of State and local vocational education programs and services in light of information regarding current and projected manpower needs and job opportunities." In view of the past criticism placed on vocational education for failure to respond to changing manpower needs, this section has particular importance. States should be encouraged to conduct such evaluations, and the results should be submitted to the Office of Education. A compilation of such studies by the Office of Education would provide valuable planning data for the States.

Evaluative data on a national basis should be gathered for the vocational programs of fiscal year 1971, and such data made available to the Advisory Council on Vocational Education whose report is to be completed on January 1, 1973.

State and Local Administration

At the State level, the varying and special problems of 50 different States have prevented a uniform response to the need for organizational change. All have shown a willingness to adjust directions and programs in accord with the requirements of the legislation, but some have been able to move faster than others. Change in organizational structure is not, per se, the measure of the extent of program change or of effort in this direction. There are indications that States generally are planning organizational and administrative arrangements that will best serve their individual communities, within the framework of Federal and State legislation.[9]

Few data are available upon which to make judgments concerning the response to administrative changes at the local level. The success of the local communities in meeting their administrative responsibilities can only be inferred from the data on program growth and development and other relevant data within this report.

It is apparent that the impact of VEA 1963 has influenced changes in administrative patterns and operational procedures at all levels. It is too early to estimate the full extent or effect of these and impending changes.

Achievements

- The Federal-State-local process for administration of vocational education (and national emergency) programs has been demonstrated to be sound.
- States have been sensitive to the need for administrative change and administrative supervisory personnel have been added to State and local staffs.
- Progress has been made toward developing standardized terminology for identification of employment supply and demand.
- The stability of vocational education is attributable, in a large part, to the fact that the Federal Government has dealt with only one State agency in this field; namely, the State Board for Vocational Education.

Limitations

- The administrative position of vocational education in the Office of Education is at the same level today as in 1961–62.
- Offices within the Office of Education, but not directly related to vocational education, exercise an unusual amount of control over vocational education.
- The Division of Vocational and Technical Education is understaffed and cannot provide proper leadership and service to the States.
- A national reporting system has not been developed to an operational stage to provide rapidly statistical data needed for planning and evaluation.
- State plans and projected activities reports from the States need constructive critical review by the Commissioner of Education.
- While some improvement has been made in the reporting of data, there are still many gaps in both quantity and quality.

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[9] See, J. Chester Swanson, A Nationwide Study of the Administration of Vocational-Technical Education at the State Level. A project (6–2921) conducted under the provisions of section 4(c), Public Law, 88–210. June 30, 1967.

FINANCE

Despite the fact that funds for vocational education have increased in recent years, it is quite evident that sufficient funds have not been made available, since the pasage of the Vocational Education Act of 1963, to carry out the purposes of the act. Vocational education has increased in enrollment and has changed in a number of ways, but it cannot reach out to serve people who are not now being served without the funds to do so. Strangely enough other agencies have been funded to provide a crash program to meet occupational training needs, but funds to build long-term stability into vocational education—thus making it less necessary to have crash programs—have not been available.

The total funding has indeed been complex, even to the point of agencies competing to serve the same groups of people. However, mindful of a number of related financial problems, this section will focus upon the rationale behind certain issues, problems, and other elements which need attention on a long-term basis.

Funding of the Operations of the Division of Vocational and Technical Education

This division is concerned with the operating program of vocational education. It is not now staffed appropriately to carry out its mission. Furthermore, general expense funds have been reduced to the point that the division cannot provide proper services to the States. Travel funds have been all but eliminated, as have funds for the contracting for curriculum materials. The printing of curriculum guides and other materials is delayed because of the lack of funds. This denies the States access to information needed to carry on new and innovative programs. It is imperative that funds be made available to provide appropriate services to the States.

Expenditure Estimates

Projections of expenditures take into account such items as (1) trends in enrollment, (2) construction needs, (3) teacher education and other ancillary services, (4) residential schools, and (5) other areas identified as essential to the proper development of vocational education.

In chapter 3 data are provided to show the financial structure of vocational education from several vantage points. It was noted that the total Federal investment in vocational education, per enrollee, for fiscal year 1966 was only $24; the range, accounting for the differences among the various vocational education programs, was from $6 to $78 per enrollee. These are most certainly modest expenditures.

The following table is an example of expenditure projections for fiscal years 1968–73 prepared by the Division of Vocational and Technical Education. While it projects some new and expanded responsibilities for vocational education, certain budgetary restraints were observed in its preparation. It should be noted also that the dollar figures, including those for 1968, would require legislative authority beyond that presently in force.

Expenditure Projection Details[10]

Actual and Projected Number of Teachers, Vocational and Technical Education Programs

There has been a general reduction in the pupil-teacher ratio in Vocational Education in recent years. In fiscal year 1964, statistics show a ratio of one teacher for each 54 students enrolled. In 1965, the ratio dropped to one teacher for 50 students, and in 1966, to one teacher for 48 students. With increased emphasis on post-high school and programs for full-time students, the ratio of teacher to students in total enrollments will continue to drop; projections indicate that in 1970, the ratio will be one teacher to 45 students, and in 1975, one teacher to 40 students.

Actual and Projected Enrollments in Teacher Education Programs, Vocational and Technical Education

Preservice.—An analysis of preservice teacher training programs for fiscal years 1964, 1965, and 1966 indicates that the number enrolled in preservice programs averaged approximately 30 percent of the number of teachers employed each year in all programs.

As enrollments increase and new occupational training programs are developed, programs to prepare fully qualified teachers must be accelerated.

To meet the requirements of new programs and to provide replacements for teachers leaving each year will require that the percentage enrolled in preservice programs be maintained at 30–35 percent of the total number of teachers employed. Increased projections based on 35 percent would supply a potential of approximately 20,000 new teachers each year. Additional teachers needed to staff programs would be recruited from business, industry, the military, and other sources.

Inservice.—Approximately 30 percent of the total number of teachers were enrolled in inservice programs in fiscal years 1964, 1965, and 1966.

To meet the changing requirements for teachers in vocational and technical education will require increased participation in inservice programs.

Projected enrollments in inservice programs are based on increasing the percentage to approximately

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[10] Unless otherwise noted, all data have been prepared by the Division of Vocational and Technical Education, Program Planning and Development Branch.

TABLE 93.—*Estimates of Federal funds for vocational education and MDT education component*

[In thousands of dollars] [1]

	1968	1969	1970	1971	1972	1973
Total	543, 674	941, 723	1, 261, 304	1, 038, 388	1, 141, 368	1, 256, 039
Program operation (training) [2]	189, 988	286, 186	332, 994	372, 790	412, 686	456, 882
a. Regular programs	134, 438	212, 124	250, 517	278, 215	305, 657	336, 735
b. Health related training [2]	12, 000	14, 870	17, 740	22, 553	25, 928	31, 309
c. Special needs [2]	6, 450	9, 486	11, 858	14, 230	16, 601	18, 972
d. Ancillary services other than teacher education [2]	37, 100	49, 706	52, 879	57, 792	64, 500	69, 866
Construction (site, buildings, equipment, and remodeling)	67, 573	192, 708	323, 750	271, 333	271, 333	271, 333
Teacher education	5, 900	29, 590	40, 726	50, 315	51, 867	53, 678
a. Inservice and preservice [2]	[2] 5, 900	[2] 7, 090	[2] 7, 726	[2] 9, 315	[2] 10, 867	[2] 12, 678
b. Teacher scholarships and fellowships [3]	....	21, 000	30, 000	36, 000	36, 000	36, 000
c. Fellowships—Teacher educators, researchers, and administrators [3]		1, 500	3, 000	5, 000	5, 000	5, 000
Residential schools		12, 943	103, 602	107, 950	112, 482	117, 206
a. Construction and planning [4]		11, 000	83, 200	86, 528	89, 989	93, 589
b. Education and operation [5]		1, 943	20, 402	21, 422	22, 493	23, 617
Work study and other work experience programs		30, 000	45, 000	60, 000	90, 000	127, 000
Exemplary and innovative programs	30, 000	120, 000	130, 000	146, 000	173, 000	230, 000
a. General	30, 000	60, 000	60, 000	66, 000	78, 000	120, 000
b. Special programs for disadvantaged		60, 000	70, 000	80, 000	95, 000	110, 000
Subtotal vocational education, regular	293, 461	671, 427	976, 072	1, 008, 388	1, 111, 268	1, 256, 039
MDT education component	263, 663	248, 450	260, 217			
Research (4.c,)	13, 000	21, 000	25, 000	30, 000	30, 000	30, 000
Estimated enrollment	7, 505, 000	8, 555, 000	9, 600, 000	10, 480, 000	11, 360, 000	12, 240, 000

[1] Data supplied by the Division of Vocational and Technical Education.

[2] DVTE spread sheet.

[3] Pucinski amendments to act of 1963.

[4] Facilities unit estimate, $4 million per school with 4 percent annual interest.

[5] Facilities unit estimate on research and educational cost per school with 500 students.

35 percent of the total teachers employed in 1970 to 1975.

Actual and Projected State and Local Administrative and Other Ancillary Personnel in Vocational Education

Administrative and other ancillary personnel increased in fiscal year 1966 over fiscal year 1965 approximately 25 percent at the State level and 23 percent at the local level. The increases reflect the rapid expansion of vocational-technical education programs at all levels under the provisions of the Vocational Education Act of 1963.

Projections of needs and an analysis of trends in enrollments and programs indicate an average yearly increase of approximately 5 percent for personnel at the State level and 7 percent at the local level.

TABLE 94.—*Actual and projected number of teachers for vocational and technical education programs*

Fiscal year	Number of teachers
Actual:	
1964	85, 102
1965	109, 136
1966	124, 729
Projected:	
1967	146, 383
1968	163, 150
1970	213, 300
1975	350, 000

Slight adjustments were made in the projections to assure for special personnel required at different levels and for special kinds of administrative and ancillary personnel services required to administer and operate all programs.

A major limitation of the preceding projections rests in the fact that the projections are based on current appropriations. This assumes that the current level of Federal support is adequate to carry out the intent and purpose of the act. This assumption is questionable in view of the lack of impact vocational education has been able to make in certain critical areas. An example of this lack can be seen in relationship to the urban centers problems. It was the considered opinion of several consultants representing large cities that the total Federal allotment to their State could be used in one of the major cities alone.

Another area in which the impact has been minimal is the area of special needs. With a current enrollment of approximately 59,000 in such programs compared with an annual dropout rate of about 1 million students, it can be seen that much remains to be done.

TABLE 95.—*Actual and projected enrollments in teacher education programs for vocational and technical education*

Fiscal year	Total	Preservice	Inservice
Actual:			
1965	69, 051	33, 771	35, 280
1966	77, 091	38, 774	38, 317
Projected:			
1967	102, 000	50, 500	51, 500
1968	114, 000	56, 000	58, 000
1970	149, 300	73, 500	75, 800
1975	245, 000	121, 000	124, 000

Through experience with other acts designed specifically for persons with special needs, it has been found that development and implementation of such programs have extraordinary costs which must be considered.

Another serious limitation is the inability to project accurately funds required to offset increased costs and funds required to implement desirable changes resulting from research and experimental programs. If the cost index continues to increase at the present rate of about 3.5 to 4.0 percent per year, the projections for 1975 will be in error 15 to 20 percent because of this factor alone. It has been estimated that the costs of education are rising at a more rapid rate than general costs. This factor introduces the potential for even greater error.

Noting the limitations above should not be construed as a criticism either of the Division of Vocational and Technical Education, or of the budget projections. The limitations are noted only within the context of the type of budget and its limitations for projecting the financial needs of vocational education. In terms of the limitations within which the division must perform its planning role, this type of

TABLE 96.—*Actual and projected State and local administrative and other ancillary personnel in vocational education*

Level	Fiscal year						
	1965[1]	1966[1]	1967	1968	1969	1970	1975
STATE							
Directors or supervisors	336	360	372	385	405	425	530
Assistant directors or supervisors	370	414	420	430	450	470	650
Area supervisors	303	298	340	380	420	460	740
Youth specialists	38	28	50	75	80	90	145
Teacher trainers	52	56	58	60	65	68	90
Itinerant teachers	141	177	185	190	200	210	235
Research specialists	19	58	62	65	68	70	90
Guidance specialists	36	51	65	70	75	85	95
Curriculum specialists	37	52	54	60	65	70	90
Work study	31	28	25				
Other	111	135	135	135	140	150	200
Subtotal	1, 474	1, 657	1, 766	1, 850	1, 968	2, 098	2, 865
Institutions, teacher trainers	1, 571	2, 145	2, 359	2, 480	2, 560	2, 640	3, 150
Total State	3, 045	3, 802	4, 125	4, 330	4, 528	4, 738	6, 015
LOCAL							
Directors or supervisors	2, 729	2, 936	3, 106	3, 275	3, 600	3, 950	5, 675
Guidance specialists	874	962	985	1, 000	1, 025	1, 050	1, 200
Curriculum	162	123	135	142	150	160	200
Work-study	72	607	450				
Other	271	313	310	310	330	350	450
Total local	4, 108	4, 941	4, 986	4, 727	5, 105	5, 510	7, 525
Total, State and local	7, 153	8, 743	9, 111	9, 057	9, 633	10, 248	13, 540

[1] Actual— all other years projected.

TABLE 97.—*Facility needs to accommodate projected enrollments in vocational and technical education*

Fiscal year	Enrollment	Enrollment increase over previous year	New work stations needed [1]	Estimated cost [2]
1964	[3] 4, 566, 390			
1965	[3] 5, 430, 611	864, 221	288, 074	$532, 936, 900
1966	[4] 6, 105, 838	675, 227	225, 076	416, 390, 600
1967	[5] 6, 880, 000	774, 162	258, 054	477, 399, 900
1968	[5] 7, 505, 000	625, 000	208, 333	385, 416, 050
1970	[5] 9, 600, 000	2, 095, 000	698, 333	1, 291, 916, 050
1975	[5] 14, 000, 000	4, 400, 000	1, 466, 667	2, 713, 333, 950
Totals		9, 433, 610	3, 144, 537	5, 817, 393, 450

[1] Work stations needed are calculated on the basis of each station serving a different student in the morning, in the afternoon, and in the evening.

[2] Estimated costs of facilities are calculated by multiplying the number of new work stations needed by $1,850. Justification for the cost of $1,850 per student-work station is as follows:

"A sampling of 20 contracts for school construction accomplished in 1965 in several States reveals a median cost of $1,850 per pupil. Cost data are based on 1965 contract data published in 'Engineering News Record.' Cost per pupil ranged from a State average of $882 in Texas, to $4,300 in Massachusetts. Average cost per square foot ranged from $11 in Kansas, to $25 in New York City and Hawaii. The norm was a little more than $20.

"Previous projections when correlated with States reported construction indicated average cost of $1,850 per pupil or per work station, and $20 per square foot. These costs were derived from an estimated total of $85+ million for constructing 1,978 classrooms, shops, and laboratories."

[3] Actual enrollment.

[4] Provisional enrollment.

[5] Projected enrollment.

budget projection is appropriate and essential for its purposes. Projects are reviewed annually by the division, and adjustments are made for the limitations noted.

Other Projections

The American Vocational Association conducted a study to determine the amount of Federal funds needed to serve vocational education adequately. Each of the State directors was asked to submit an estimate of the funds which could be used effectively in serving all the vocational technical education needs of his State. The results of that survey are as follows:

Highlights of Estimates Concerning Vocational-Technical Education [11]

NOTE.—The figures reflected in this study include estimated projections received from all States and territories except Alabama, Montana, North Dakota, Wyoming, District of Columbia, and Virgin Islands.

- Estimated Federal funds needed to adequately serve vocational-technical education needs, exclusive of MDT.

Fiscal year	
1967	$403, 800, 906
1968	546, 766, 002
1969	653, 862, 071
1970	1, 220, 157, 883

- Estimated local and State support for vocational-technical education.

Fiscal year	
1967	$693, 990, 959
1968	800, 916, 635
1969	893, 058, 225
1970	984, 136, 840

- Total estimated projections (Federal, State, and local) to adequately serve vocational-technical education needs.

Fiscal year	
1967	$1, 097, 791, 865
1968	1, 347, 682, 637
1969	1, 546, 920, 296
1970	2, 204, 294, 723

- Estimated enrollment in vocational-technical education programs, exclusive of MDT.

Fiscal year	
1967	6, 745, 651
1968	6, 878, 308
1969	8, 085, 229
1970	8, 286, 052

- Forty-three States said matching by purpose should be abolished.
- Five States said matching by purpose should be retained.
- Estimated Federal dollars needed for constructing, equipping and remodeling facilities to adequately serve vocational-technical education needs.

Fiscal year	
1967	$233, 195, 510
1968	313, 005, 814
1969	345, 778, 180
1970	345, 219, 750

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[11] American Vocational Association, AVA Study No. 1—1967, Jan. 20, 1967.

- $3,996,051—average cost to construct and equip one residential school assuming 100 percent Federal funding.
- Average Federal dollars needed to operate one residential school for 1 year.

Educational cost per student	$925
Residential cost per student	1,018

- Seven States did not identify how many residential schools needed.
- Vocational-technical education teachers now employed in the States, exclusive of MDT.

Full time	65,007
Part time	56,863

- Total estimated teachers needed for all vocational-technical education.

Fiscal year	*Full time*	*Part time*	*Total*
1967	68,078	59,723	127,801
1968	75,569	64,283	139,852
1969	81,701	70,094	151,795
1970	88,765	76,387	165,152

- Teacher training investment in fiscal year 1966.

Local	$2,761,176
State	7,130,239
Federal	5,575,793
Total	15,467,208

- Total teacher trainers—1,938 of which 1,001 are full time and 937 are part time.
- Persons given teacher training in fiscal year 1966.

Full-time students	28,197
Part-time students	35,915

- Estimated Federal dollars needed for preservice, inservice, internship, and fellowship teacher training.

Fiscal year	
1967	$19,916,991
1968	23,760,195
1969	26,875,495
1970	29,407,010

- Estimated Federal dollars needed to provide work-study programs for students needing assistance in fiscal year 1967—$24,828,314.
- Estimated number of students who should be served by work-study program.

Fiscal year	
1967	320,214
1968	347,824
1969	374,063
1970	391,180

- Forty States reported that the differential in matching among work study programs created problems
- Estimated Federal dollars States could use for vocational-technical education research.

Fiscal year	
1967	$14,604,328
1968	19,074,370
1969	21,854,534
1970	25,014,629

- Estimated Federal dollars needed to adequately finance educational component of the Manpower Development and Training program.

Fiscal year	
1967	$217,778,891
1968	236,663,377
1969	248,450,222
1970	260,217,034

The AVA projections were summarized by the staff of the advisory council and adjusted by the addition of staff data; they are shown in table 98.

It is significant that all recent projections for funding are based upon an expanded program of vocational education designed to serve effectively a greater number of persons. Despite the increase in Federal funds projected, the Federal investment per persons is extremely modest.

TABLE 98.—*Estimates of Federal funds for vocational education*

	1967	1968	1969	1970
Program operation	$352,176,534	$434,603,730	$507,004,791	$565,555,639
MDTA education component	217,778,891	236,663,377	248,450,222	260,217,034
Building and Equipment updating	233,195,510	313,005,814	343,778,180	343,219,750
Residential school:				
a. Construction [1]	216,000,000	260,000,000	324,000,000	372,000,000
b. Residential and education cost	54,000,000	65,000,000	81,000,000	93,000,000
Teacher education plus scholoars and fellows	19,916,991	23,760,195	26,875,495	29,407,010
Work-study	25,000,000	30,000,000	35,000,000	40,000,000
Research in States	14,604,328	19,074,370	21,854,534	25,014,629
Total	1,132,672,254	1,382,107,486	1,587,963,222	1,728,414,062
Estimated enrollment	6,880,000	7,505,000	8,552,000	9,600,000
Cost per student	$165	$184	$186	$180

[1] Estimated number of schools, fiscal years 1967—54, fiscal years 1968—65, fiscal years 1969—81, fiscal years 1970—93.

Limitations for Projecting Financial Needs

The major limitation for projecting the financial needs for vocational education is the lack of data relating to the actual costs of vocational programs. States report expenditures by the broad program fields established by the Smith-Hughes and George-Barden Acts, and also by the purposes established by VEA 1963.

In reporting by broad program fields, the States report the total enrollments and total expenditures within the program categories, but do not break them down by educational level. Therefore, it is not possible to differentiate between the costs of program categories and the educational levels.

In reporting by the purposes of VEA 1963, the States show the total enrollment by educational level but only the VEA funds and funds transferred to VEA expended for each level. Thus, it is not possible to determine the total amount of funds expended for vocational programs at a given education level.

The reporting system does not relate expenditures to hours of enrollment or to differing kinds of programs within the broad program categories. As a result of these reporting deficiences, there is no way to establish unit costs. The Panel of Consultants recommended that a system of reporting should be developed to provide such data and that "Financial reports should make it possible to determine unit costs, source of funds, and classification of expenditures." [12]

As the responsibility of vocational education is expanded to meet new needs in new ways, projecting financial needs becomes more difficult. Lack of experience and background will necessitate that many of the new programs and procedures will bear the high costs associated with research and experimentation. This is borne out to some degree by experiences of other programs designed for similar purposes. In tables 99 and 100, a breakdown of costs for Job Corps programs is presented. Inasmuch as vocational education is called upon to serve the same or similar type of student, the cost factor will be somewhat related.

In the annual report of the Manpower Development and Training Act, the institutional cost per trainee was reported to be $845 in 1966.[13] This cost did not include allowances to the trainee. The significance of Job Corps and MDTA costs to vocational education is in relationship to the similarity of the types of students to be served. It can be anticipated that as experience is gained, greater cost effectiveness can be achieved.

As vocational education expands to serve the broad spectrum of occupational opportunities, the costs for developing and implementing programs in new fields will vary greatly. Certain of the fields will require special facilities and equipment, while others will require much less for these purposes.

The effectiveness with which vocational education can meet the purposes of VEA 1963 is dependent upon the level of financial support. That the level of support has not been adequate appears to be evident in the areas where little impact has been made and problems are great, such as the urban centers, rural areas, and developing programs for special needs.

Achievements

- Increased funding under the Vocational Education Act of 1963 has stimulated development of vocational education in all States.
- Funds available for construction of vocational education facilities have expanded the opportunity for enrollment in vocational education.

Limitations

- The total Federal vocational education fund is entirely too small to expand and develop programs in accord with the need.
- Funds have not been allocated from the Vocational Education Acts to provide properly for the needs of the Division of Vocational and Technical Education. Consequently, services desired by the States are not provided, and instructional materials prepared are not printed or distributed.
- Vocational education funds are forced to compete at a disadvantage with the more favorable funding available through other Government agencies.

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[12] "Education for a Changing World of Work," op. cit., p. 243.

[13] "Education and Training," 5th Annual Report. Washington: U.S. Government Printing Office, 1967, p. 62.

TABLE 99.—*Job Corps, annual cost per enrollee, fiscal year 1967*[1]

Category	Total	Men's urban center	Women's urban center	Conservation center-Federal
Total	$8, 076	$8, 664	$9, 735	$7, 315
Enrollee expense	2, 761	2, 617	2, 619	2, 931
Pay and allowances	1, 188	1, 220	1, 150	1, 177
Travel	324	267	248	396
Clothing	276	226	203	331
Subsistence	435	323	394	540
Medical and dental supplies and services	256	195	342	296
Educational supplies	80	92	156	57
Vocational supplies	156	309	95	31
Recreation and welfare	105	113	75	103
Less receipts	−59	−128	−44	...
Operations and maintenance	1, 129	1, 350	2, 078	782
Center administration, supplies and services	346	426	490	252
Center facilities and maintenance	178	193	273	149
Utilities and fuel	129	129	120	130
Communications	77	76	115	71
Motor vehicle operation and maintenance	110	46	30	180
Other general purpose equipment	12	24	17	...
Legal and accounting services and insurance	14	25	42	...
Lease costs	25	...	311	...
Contractor's fees	118	221	298	...
Contractor's expenses	120	210	382	...
Center staff expense	2, 983	3, 494	3, 835	2, 399
Educational personnel	452	408	675	454
Vocational personnel	269	487	317	70
Safety and recreational personnel	137	211	264	52
Guidance and counseling	698	740	843	638
Management and other personnel	997	1, 420	1, 445	554
Medical and dental personnel	104	151	200	48
Work project personnel	242	...	...	494
Staff travel	72	55	87	84
Staff training	12	22	4	5
Overhead, total	603	603	603	603
Capital costs, total	600	600	600	600

[1] As adapted from a paper by Garth L. Mangum prepared for the Advisory Council on Vocational Education, p. 67.

TABLE 100.—*Job Corps enrollment and capacity,*[1] *June 16, 1967*

	Centers	Enrollment	Capacity	Percent of capacity utilized
Total	122	39, 419	41, 573	94.8
Men	103	30, 776	32, 086	95.9
Conservation	90	14, 953	15, 774	94.9
Urban	10	15, 415	15, 870	97.1
Demonstration	3	408	442	92.3
Women	20	8, 643	9, 487	91.1
Urban	18	8, 473	9, 087	93.2
Demonstration	2	170	400	42.5

[1] As adapted from a paper by Garth L. Mangum prepared for the Advisory Council on Vocational Education, p. 66.

SUPPORTING SERVICES

Three of the major supporting services in vocational education have been cited for special comment because in the long run these services have direct impact upon quality dimensions. These services are (1) leadership development in vocational education, (2) youth organizations, and (3) curriculum and instructional materials.

Leadership Development in Vocational Education

The institutions of society have produced their leaders and vocational education is not an exception in this regard. Substantial leadership has been at hand, but systematic development of leadership has only recently been an item of major concern. The Panel of Consultants on Vocational Education identified succinctly the necessity of leadership training.[14] Leadership was thought to be a definite determinant of both the quality and effectiveness of vocational education. Responsibility for leadership development activities obviously had Federal, State, and local aspects.

Opportunity Under VEA 1963

Leadership development is inherently a part of the general intent of the Vocational Education Act of 1963. Persons of high purpose and top quality are required to carry out the purposes of the act. National training programs have been developed as a means of facilitating emergence of leadership. States have used portions of their funds to provide similar service within the State. Potential amendments to the Vocational Education Act of 1963 will provide even broader efforts within the States and will enhance opportunity for qualified teachers and administrative personnel to become better prepared through graduate study, and through the exchange of industry and business experiences. Leadership development is one of the priority tasks in the rapidly expanding program of vocational education. Adjustments in the basic legislation can and should broaden the opportunity to move rapidly into this essential area of concern.

Can Leaders Be Developed?

The answer, based upon modern conceptions of leadership, is yes, but with some qualifications. The complex structure of the leadership process suggests that leadership is not something that is attained (like the answer to a column of figures, for example), but is something that must be pursued continuously. One does not become a leader, and thus firmly established forever, because the environmental units are not static.

Included also in the modern conceptions of leadership is the point of view that administration and leadership are not necessarily elements in the same series. The good administrator may not also be a good leader, and it is incumbent upon vocational education to produce leaders who do not have administrative burdens. In short, the position of leadership, in some facet of vocational education, can be attained independently of acquiring a position of administration. Administration, can, however, provide an environment in which leadership potential among vocational educators can grow.

The Federal Role

Strong leadership at the Federal level has been essential to the development of vocational education. For a half-century this leadership has in fact exerted significant influence upon the development of vocational education. Continuance of the leadership role is imperative for vocational education to rise effectively to the new challenges ahead.

Throughout the history of vocational education a significant portion of the Federal leadership role has been carried out through the U.S. Office of Education. The States look to the Division of Vocational and Technical Education for guidance in all facets of vocational education, but guidance of a particular kind.

Vocational education exists in the mainstream of a number of national forces—forces that are changing, forces whose dimensions include a variety of major efforts to improve the social and economic fabric of the Nation. For vocational education to adjust appropriately to these forces, its role must be continuously interpreted at the same level of government where these major forces are generated. In this way vocational education can in fact meet the requirements of change. It is not possible for any State, or professional organization, to substitute effectively in this role. Only by an emphasis upon the Federal leadership role can a massive effort to improve vocational education be successful. Maintaining and strengthening the Federal-State partnership—a partnership with 50 years of successful experience—will provide the motivation and resources to strengthen State and local relationships and ultimately the actual program of vocational education in the public schools of the Nation.[15]

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[14] U.S. Department of Health, Education, and Welfare, Office of Education. "Education for a Changing World of Work," OE–80021. Washington: U.S. Government Printing Office, 1963, pp. 162, 244–45.

The State Role

It has been traditional to think about the State leadership role as vested in the State level vocational services. Certainly during earlier periods of vocational education development it was imperative that the action leadership be concentrated at the State level, and the people involved in these tasks were acknowledged leaders. But, time and change have altered the role of the State department of education in leadership in vocational education.[16]

Change in the State role does not make it possible for States to abdicate leadership responsibility; it does make it possible for States to become motivators of leadership development, as contrasted with active participants. Assessment of leadership potential within the State, both the public and private sectors, is an essential aspect of the State role. This has been described as a "transition from the do-it-yourself practices of the past to a see-that-others-do-it policy." [17]

Imperative in the State role is a long-range leadership development policy, or plan, which will prevent fragmentation of effort and overemphasis of some aspects of leadership development at the expense of others. The challenge of the State role lies in the State's ability to motivate a diversity of leadership activities.

The Local Role

Development of leadership at the local level can not be carried out independently of a master plan for State leadership development because of the necessity for schools to cooperate in group activities such as summer workshops, sensitivity training, and the like. However, each local school has a unique responsibility for leadership development. The situation has been described as follows:

> In the past, persons have moved into local leadership positions in vocational and technical education with little or no preparation for such roles. The common pattern of education preparation of vocational personnel in our public schools is one of early specialization. Most vocational teachers are recruited on the basis of their interest and technical competence in a particular trade or occupation and with a minimum amount of professional preparation and general education.
>
> Among teachers so recruited are many very able individuals who rise to leadership positions, frequently without the opportunity to acquire an understanding of the nature of our society and its needs. They need help in gaining an understanding of the total educational enterprise and the social and economic conditions of our society. They also need to develop the skills of an effective educational leader.[18]

Implementing Leadership Programs

The area of leadership has been the object of extensive research in recent years. Concepts of leadership have changed accordingly, and massive efforts have developed throughout the Nation in business, industry, and other areas to promote leadership development. Vocational education, like other areas, must provide extensive leadership development to parallel the general growth of vocational education, to match the increase in scope of the variety of persons served, and to support the vast range of occupational preparation for which vocational education is provided.

Since 1965, leadership training programs have been supported from funds provided in section 4(c) of the Vocational Education Act of 1963, and, therefore, have been directed by the Division of Comprehensive and Vocational Education Research, Bureau of Research.

The major portion of the leadership development effort in the Nation should be directly related to, and coordinated with, the operational program of vocational education. This is the function of the Division of Vocational and Technical Education, Bureau of Adult, Vocational, and Library Programs. Previous experience, developed over many years in the Division of Vocational and Technical Education, has and can continue to provide innovative leadership programs that produce appropriate motivating experiences for State and other personnel in vocational education.

Programs conducted under the direct sponsorship of the Division of Comprehensive and Vocational Education Research have been effective and well received. The process, however, has some inherent defects. For example, the Division of Comprehensive and Vocational Education Research contracts with an institution to conduct a leadership program and provides the necessary funds. The institution in order to inject into the leadership program national expertise in vocational education must call upon the Division of

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[15] Walter M. Arnold. "50 Years of Federal-State Partnerships," *American Vocational Journal,* March 1967, pp. 20–23.

[16] Wesley P. Smith. "Leadership Development: Role of the State Department." *American Vocational Journal,* December 1966, pp. 28–29.

[17] Op. cit., p. 29.

[18] Ralph C. Wenrich. "Development of Local Leadership." *American Vocational Journal,* December 1966, p. 27.

Vocational and Technical Education for assistance. For programs conducted during fiscal year 1967, input to the leadership process from the Division of Vocational and Technical Education was denied on the basis that such assistance represented double funding. This leads to an almost absurd situation of denying the very group that should have primary responsibility for leadership in vocational education an opportunity to participate in the program.

The Division of Comprehensive and Vocational Education Research, on the other hand, should fund leadership programs in the realm of experimental research in order to upgrade continuously the methodology and conceptual aspects of leadership development.

Funds made available to the States should support statewide and local leadership programs. Personnel concerned with such programs should participate in national planning for leadership development in order to develop coordination of effort.

Achievements

- Great strides have been taken in providing leadership opportunities in national, regional, and State conferences and seminars.

Limitations

- Despite the significant development in leadership activity, the extent of such activity does not measure up to the national need.
- National and regional leadership programs have been planned and developed by the Division of Comprehensive and Vocational Education Research (instead of the Division of Vocational and Technical Education) and thus the conferences lacked sufficient program orientation.
- Funds to plan and conduct appropriate leadership programs have not been made available to the operating program of vocational education at the national level.
- Personnel in the U.S. Office of Education who are directly concerned with the program of vocational education have very often been denied the opportunity to participate in the program for which they have primary responsibility.

Youth Organizations

One of the basic needs of man is a sense of belonging, a feeling of being accepted as a part of something that is bigger than the individual. Youth organizations, in general, provide an opportunity for the student to be with friends, to identify with a specific field of interest, to gain recognition from his peers, teachers, and other adults, to be of service, and to gain a sense of identification.

Vocational education youth groups meet these general needs, but also add an area of specificity that enhances the student's participation in his chosen occupational curriculum. Some of the contributions of a vocational youth organization include:

1. The student gains a variety of first hand experience through consistent contact with personnel working in a specific occupational area.
2. The student is apprised of the opportunities available in a specific occupation to a vocational education graduate.
3. The student learns if he is qualified and interested in obtaining the necessary education and experience to enter his chosen field.
4. The student gains experience in leadership roles as a member of his youth organization.
5. The student gains an awareness of the professional organizations which exist to help him in his career choice, and in attaining his career goals.

Vocational education youth organizations supply the vehicle for relating occupational competence and significance to the student's work environment and his role in society. Such organizations also provide a laboratory for securing experience not possible through the other aspects of the curriculum.

Vocational education youth organizations have also promoted the professional interests of teachers. Teachers know that a local chapter of a national organization can serve as an excellent vehicle to develop student participation and leadership in many activities. Teachers also know that youth leadership can be used as a means of motivating classroom instruction and making it more effective. Consequently, professional teachers have encouraged the development of youth organizations for their curriculum areas.

Students in youth organizations have improved the local school environment by rendering many types of services such as landscaping school grounds, sponsoring safety programs, conducting cleanup campaigns at the school, organizing school fairs, and various other activities.

Other constructive local services provided by youth organizations include fire-prevention programs; home, highway, farm, and factory accident-prevention programs; analysis of business and industrial resources; and programs to encourage dropouts to return to school. Local organizations develop an appreciation of school and civic responsibility and they promote improved scholarship through school competition.

The youth groups which have been discussed in chapter 8 have their individual creeds and emblems through which they express such common aspirations and ideals as leadership, character development, cooperation, citizenship, and patriotism. In effect, these groups are capable of helping the individual achieve progress toward these goals by creating the social milieu in which he can both learn to cooperate with this peer group and learn unit cooperation with the adult world of work through communication with civic and commercial groups. As a unit within the local school, such a group has the potential of increasing the status of vocational education by creating the essentials of pride and interest in a specific area of vocational education.

The youth organizations are a means by which career information is disseminated. Scholarship information and counseling from group advisors adds further to the importance of these groups in the field of vocational education.

Long ago the citizenship potential of vocational education was anticipated by Senator Carroll S. Page, of Vermont, when he said on the floor of the Senate, "I submit, Mr. President, that this can be done [achieve good citizenship] in no way so well as by vocational education—indeed it is probable that there is no other way in which it can be done at all." [19] Youth organizations in vocational education do in fact assist in achieveing desirable social objectives.

Achievements

- Youth organizations are an integral part of the total program of vocational education. The number of such organizations has grown since 1963, and their contribution to the development of youth is exemplary in the highest degree.

Limitations

- Opportunities have not been provided for all youth enrolled in vocational education to belong to a vocational education youth organization.
- Basic financial support is not provided for all youth organizations in vocational education.

Curriculum and Instructional Materials

During the early years of the vocational education movement, the Federal Board for Vocational Education found that it was impossible to produce all of the materials needed. Stress was placed upon teaching job analysis techniques. Accordingly, all teacher education programs throughout the Nation adopted such techniques as a part of the teacher education programs. In addition, special national seminars were held for State personnel which were devoted in part to instructional materials. During these early years, therefore, the instructor was largely obligated to prepare his own material.

The concept of each teacher developing his own materials has been found to be inefficient in that many teachers have not had adequate training in the development of materials, time is usually limited, and often a teacher's background in an occupation is not of sufficient breadth to make him highly expert in all phases of the occupation for which materials are to be provided.

As the vocational education program grew, the need for national coordination of effort in the areas of curriculum and instructional materials became more apparent. By 1967, the need was critical.[20]

The concerns of vocational educators about the lack of curriculum materials for at least the last 10 years are clearly documented in studies and reports.

A comprehensive study of trade and industrial curriculum development in 1958 provided a series of strong recommendations relating to the role of the U.S. Office of Education.[21] Recommendations called for staffing, nationwide coordination, use of a national advisory committee to the Office of Education on curriculum materials, the development of standardized terminology and formats, and the production of an annual bibliography of materials.

In January 1959, in response to a long-felt need, leaders in trade and industrial curriculum materials development assembled in Washington at the request of the U.S. Office of Education to appraise progress *in curriculum development* and to recommend actions. Their report included recommendations for the local, State, and Federal levels.[22] It is significant that the report strongly recommended Federal support, leadership, coordination, and other services.

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[19] Congressional Record, July 24, 1916, p. 13266.

[20] Background information concerning curriculum and instructional materials is presented in greater detail in ch. 8.

[21] Merle E. Strong. "An Investigation of Trade and Industrial Education Curriculum Materials Development and Curriculum Laboratories in the United States." (Unpublished dissertation, The Ohio State University, 1958.)

[22] U.S. Department of Health, Education, and Welfare, Office of Education. "Cooperative Action for Instructional Materials Development in Trade and Industrial Education," OE 8400. Washington: U.S. Government Printing Office, 1959.

The recommendations of the Panel of Consultants on Vocational Education relating to curriculum materials development are highly significant since this report laid the foundation for the Vocational Education Act of 1963. The panel indicated that:

> It is recommended that the production of instructional materials for vocational courses be recognized as vital to an effective national program and that,
>
> 1. One or more instructional material laboratories be established to produce and distribute vocational instructional materials.
>
> *a.* Programed learning aids, visual aids, and newer methods of the presentation and use of materials should be considered in the production of instructional materials.
>
> *b.* All materials developed should be made available to private publishers for maximum distribution.
>
> 2. It be a responsibility of the U.S. Office of Education, through the Division of Vocational and Technical Education to,
>
> *a.* Establish and administer instructional materials laboratories through contractual arrangements with a State department of education, a college, a university, or a large school district.
>
> *b.* Develop policies for the operation, coordination between centers, production of materials and distribution of the materials produced in these centers.
>
> *c.* Finance the operation of these centers.
>
> 3. An adequate quantity and an appropriate quality and an appropriate quality of instructional supplies, tools, instruments, and equipment be recognized as essential to good instruction. Standards of evaluation should consider the quantity and quality of supplies, tools, instruments, and equipment available.[23]

Further recognition of the need for curriculum materials and support for the Office of Education to play a more substantial role are found in the report of the National Curriculum Materials Clinic held in Kansas City, January 17–19, 1967.

It is clear that some progress has been made in curriculum materials development since the act of 1963, however, accomplishments fall far short of meeting the Nation's needs. While the recommendation of the Panel of Consultants on Vocational Education in 1963 were quite specific, resources have not been provided either at the national level or in the States to carry out the job to the extent necessary to support program change and growth.

The effort of the Division of Vocational and Technical Education through contracting activity has been successful. However, funding from Office of Education sources has not been on a continuing basis; in fact, only $3,845 was available for this purpose in fiscal year 1967, and all funds have been eliminated for fiscal year 1968.

Funds for printing have lagged greatly, delaying the publication of many materials during the last 2 years. A critical situation exists in fiscal year 1968 due to the fact that no funds have been made available for printing the large number of contracted materials ready for publication.

A problem in maximizing the efforts of the States has been the lack of coordination. There is much duplication of effort on the part of individual States and by teachers at the local level in developing instructional materials. Many instructional materials could be developed by specialized personnel and used by teachers in several States.

In addition to the problem of limited funds is the fact that presently there is little structure for the States to combine their total efforts to meet the problem jointly on a coordinated basis.

Substantial resources will be necessary on a continuing basis if the Nation's needs for curriculum materials for vocational programs are to be met. Funds are necessary for carrying out a number of functions, among which are leadership, coordination, development, reproduction, dissemination, and evaluation.

Alternative means or combinations might be used for accomplishing the functions mentioned. In any case, a strengthening of the national office would seem imperative. Direct contracting for the development of individual publications has proven advantageous in terms of providing a method of utilizing the best talent in the Nation through the selection of an appropriate contractor and the identification of a highly competent national advisory committee. However, for this process to operate effectively present problems and restraints would have to be eliminated. In addition to the problem of funding, the mechanics for contracting, editing, reproduction, and dissemination within the Office of Education must be improved.

An alternate solution might be the establishment of regional laboratories by direct grants from the Division of Vocational and Technical Education which would serve the development, reproduction, dissemination, and evaluation functions. Under this proposal the division should appropriately maintain functions of national leadership, coordination, and overall evaluation.

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[23] "Education for a Changing World of Work," op. cit., p. 240.

It is apparent that a stronger role for the Division of Vocational and Technical Education has been advocated through the years. While there is evidence that the division has attempted to respond to the recommendations of the States, resources have not been made available on a continuing basis to accomplish this task.

Achievements

- Some additional resources for curriculum development have been made available at the State level.
- A limited amount of U.S. Office of Education funds were made available for contracting for preparation of instructional materials.
- The Curriculum Materials Section placed six guides under contract in fiscal year 1966 and one in fiscal year 1967 with DVTE funds. From fiscal year 1963 through 1967 they engaged in 64 contracts utilizing MDT funds.
- The Curriculum Materials Section conducted a National Curriculum Materials Clinic in 1967 for personnel from the Vocational and Technical Education and the Manpower Development and Training programs.

Limitations

- Adequate staff at the national level has not been made available to give leadership either for the curriculum development effort at the national level or to coordinate curriculum development by the States. (As indicated by identified services that should be provided at the national level, see Curriculum and Instructional Materials, ch. 8).
- Funds for contracting for the development of DVTE curriculum materials have been very limited ($134,870 in fiscal year 1966 and $3,845 in fiscal year 1967).
- Funds for printing guides developed under contract or developed by DVTE have been woefully inadequate. Approximately 40 curriculum or course guides have been completed, but funds are not available for printing the guides. Nineteen additional guides will be completed within the next 6 to 9 months with no funds identified for printing.
- States have not allocated resources for curriculum materials development commensurate with the need.
- Curriculum and instructional materials for vocational education apparently have had a very low priority in the U.S. Office of Education; this is not consistent with national needs.

VOCATIONAL GUIDANCE

The vital importance of vocational guidance to our Nation and to the effectiveness of vocational-technical education was recognized by the Panel of Consultants on Vocational Education.

The panel recommended that an adequate staff for vocational guidance be maintained in the U.S. Office of Education and in State departments of education.

It envisioned that the Office of Education staff and the State staffs (1) develop, secure, and distribute occupational information, (2) provide consultative services concerning the vocational aspects of guidance, and (3) give leadership to the promotion of better vocational guidance and counseling.

As evidenced by the reported number of administrative and operational personnel responsible for vocational guidance activities at the Federal, State, and local levels, an adequate staff has not been provided.

A variety of Federal acts which initiate and support vocational counseling services attest in a realistic and tangible way to the Federal interest in vocational guidance. Despite Federal legislation and apparent interest at State and local levels, vocational guidance is not sufficiently available to all youth and adults. Evidence indicates that academic guidance has been given precedence over vocational guidance. Regardless of the merits of such action, and there are good and sufficient reasons for expanding academic guidance, a democracy cannot justify guidance services in its public schools for only some of its school population. It is in the national interest that vocational guidance be made accessible to all youth and adults.

It is the position of the council that the availability of vocational counseling and guidance must be greatly increased, but it should be coordinated and compatible with the general counseling and guidance program of the States.

Since employment is a vital factor in our economy, not only for the individual but for the general welfare of the Nation, and since the right to choose a particular occupation is a basic tenet of our democracy, it seems most appropriate that every means at our disposal should be directed toward providing each individual with whatever education, training, and guidance services are needed to secure satisfactory employment.

One of the essentials in the job securing process is vocational guidance. This service should be a functioning part of our public education program from kindergarten through grade 12 for in-school youth, and there should be an adequate and easily accessible program for out-of-school youth and adults. In other words, quality vocational guidance should be accessible to all youth and adults.

Vocational guidance and vocational-technical education are interdependent. One needs the other. Each ceases to be effective if the other is left out, is inadequate, or is of poor quality.

The Federal Level

At the Federal level, the USOE, Division of Vocational-Technical Education, should be adequately staffed and have a sufficient budget to perform the duties and functions essential to assuring that quality vocational guidance services may become accessible to all youth and adults. At present, the Division of Vocational Technical Education has but one staff member responsible for vocational guidance and counseling services. When one compares this with other governmental agencies having occupational counseling services of one kind or another, it seems evident that vocational education has been grossly neglected in this area. This may account in large measure for the dearth of information concerning the need for, growth, and development of vocational guidance. This is not so much a disservice to adequate staffing and budgeting for quality vocational guidance at the Federal level as it is to the youth and adults who need and are not getting any vocational guidance.

The State and Local Levels

At the State level an adequate budget and staff should be provided to help attain the goal of making quality vocational guidance accessible to all youth and adults in as effective and efficient manner as possible. State level leadership is essential to stimulating the local boards of education into action that will result in the establishment and maintenance of a quality vocational guidance program for in-school and out-of-school youth and adults.

At the local level an adequate budget and staff should be provided so that:

1. Effective response to Federal and State effort may be accomplished.
2. Effective coordination with public and private agencies concerned with and functioning in vocational counseling areas may take place.
3. All youth and adults may have a quality vocational guidance program available to them.

The local boards of education should give serious thought and consideration to:

1. Instituting a program of vocational guidance if one is not already in existence so that all youth and adults may have such a service accessible to them.
2. Encouraging the provision of services, leadership, and financial help at any age level, relating to the vocational aspects of guidance. Such services should be planned and implemented in concert with other administrative and funding units.
3. Providing a wide range of guidance and related services to assist in the identification and development of the vocationally significant characteristics of youth and adults who can profit from vocational education programs.
4. Utilizing the guidance services so that they are a positive influence on the development of the total curricula and particularly on the vocational-technical programs where they involve related and academic education.
5. Utilizing the services of vocational education when providing specially selected and adapted guidance and counseling services necessary to assure success of those with various types of handicaps which may or are likely to impede progress in vocational development and preparation.
6. Providing placement services and vocational counseling to all students throughout their secondary and post-secondary-school programs and initial period of adjustment to job entry.
7. Providing preparatory training, job placement, and followup services which are of such quality as to demonstrate that vocational education is sufficiently worthwhile to warrant its application in upgrading, retraining, or adjusting to the changing nature of the world of work.
8. Utilizing counselors to help relate school programs to the world of employment through contacts with both students and employers, as well as with faculty and administration.

The following vocational guidance activities and competencies are illustrative of those found in effective operating programs:

1. Appraisal of students.
2. Gathering, appraising, and disseminating occupational and educational information.

3. Conducting individual as well as group vocational counseling.

4. Placement and followup of students during in-school part-time cooperative and work-study programs as well as after graduation.

5. Cooperation and coordination of school vocational guidance program with community organizations, employees, and labor organizations.

6. Faculty and parent information, education, and consultative services.

7. Preservice and inservice education and training of counselors.

8. Evaluation and research.

9. Professional participation with guidance and counseling associations as well as with allied professional groups.

Relationship of Administration and Supervision to Vocational Guidance

Whether the counselors can accomplish any of the above aspects of vocational counseling is largely dependent upon educational administration and supervision and upon counselors' attitudes and philosophies of education. No matter how excellent the abilities of the counselors and the vocational staff attempting to implement these aspects, they and their pupils will have major problems in being accepted as first-class members of the school system if administration and supervision have little or no knowledge of or sympathy with the aims, objectives, and philosophies of vocational and technical education.

One of the primary functions of administration is to encourage and foster the growth of an educational climate conducive to a program of education that will meet the needs of all students and motivate them to maximum achievement.

Achievements

- Vocational guidance is gaining substantial recognition as an essential element of vocational education.
- Progress has been noted in some States and some local communities.
- A continuing series of national conferences and seminars, and similar efforts in a growing number of States have reinvigorated and focused attention on the needs and directions for strengthening the vocational aspects of guidance and counseling.

Limitations

- All Youth do not receive the benefits of vocational guidance; a commitment is needed among schools to provide vocational guidance as a recognized part of the total educational process.
- Although vocational guidance is admittedly a recognized part of total guidance, emphasis upon vocational guidance does not occur as far as the great mass of non-college-bound students is concerned.
- Sufficient funds have not been provided in the Vocational Education Acts for vocational guidance either at the Federal or State levels.
- National leadership in providing patterns for effective vocational guidance is almost totally lacking.
- Emphasis upon the vocational aspects of guidance does not begin early enough in the educational structure; such emphasis must be continuous but varying in nature with maturation and interest of students.
- Vocational guidance for out-of-school youth and adults has not been provided.

Chapter 11

Social and Manpower Environments of Vocational Education

Vocational education was created in response to a social need for an educated labor force, and was designed as a function and responsibility of public education. Vocational education in its total environment is, and must continue to be, sensitive to the dynamism of contemporary society. As society changes, vocational education adjusts accordingly. But throughout these adjustments its concern is directed toward people, in an educational setting, who provide the goods and services required by society. Therefore, vocational education is oriented toward, social, educational, and manpower considerations.

Associated with each of these orientations are major issues which must be identified and summarized. Trends must be reviewed and examined in order to make the most effective recommendations for the future direction of vocational education.

IDENTIFICATION OF SOCIOECONOMIC ISSUES

This section describes the social setting and delineates the major social issues confronting society: housing, poverty, urbanization, slums, population growth, civil rights, ethnic problems and the national efforts being made to treat these society components.

A second focus of this section is on the labor force, its composition and trends, forces acting to produce change in the labor force, and what is happening to the occupational structure.

National concern brought about legislation to provide attention to certain aspects of the manpower environment. Highlights of various programs are described briefly with regard to the implications they contain for vocational education.

Vocational education functions within a maelstrom of social, economic, and educational forces. These influencing forces serve to both support and detract from the position of vocational education within the public school system. Social forces, while they cannot be separated from economic and education forces, must be considered as one of the prime determiners of the composition of education.

Public education is established as the means for maintaining, perpetuating, and improving the society which it serves. Increased reliance is placed upon education to solve problems which impede social progress and improvement. This increased reliance of society on education to meet its needs extends beyond the individual States education systems. This is evidenced by the great amount of recent Federal legislation concerned with education.

Federal support for vocational education under the Smith-Hughes Act came about in recognition of a serious national shortage of skilled workers, and the deficiencies which existed for training them. Each of the recent Federal education acts focuses attention upon one or more of the significant social problems confronting the Nation currently.

The Vocational Education Act of 1963 was essentially the result of two simultaneous social conditions. The more general of these two conditions is related to that which makes up the Great Society movement or concept. The more specific condition was related to the high rates of unemployment which existed side-by-side with acute shortages of skilled and technical manpower.

The broader problem was rooted in a slowly changing attitude about the role of the Federal Government in helping to improve the social and economic welfare of all citizens. The frontier concept, that America was the land of opportunity for all willing to put forth the necessary efforts, prevailed until recent years. This same concept rejected the notion of public support and was predicated on a "survival of the fittest" attitude.

The concept worked relatively well when rapidly acquired hand skills provided man with the necessary tools to compete for his livelihood. However, as levels of skill have increased with the changes in technology and competition has become increasingly intense for the lesser skilled positions, the system has worked less and less well.

The increasing levels of skill required for most occupational categories and a concurrent reduction in employment opportunities for the less skilled are symptomatic of the need for increasing educational levels of the total population.

This trend will undoubtedly continue and intensify the difference in opportunity between the skilled and unskilled.

The nationwide emphasis upon lengthening formal education with increasing pressures upon high school graduates to continue their education in junior or senior colleges will tend to accelerate the social and economic chasm between the skilled and unskilled. As the separation increases and the economic imbalance becomes greater, social unrest becomes inevitable.

The economic imbalance can be corrected by two means. One is by direct welfare payments to the disadvantaged persons. Thus, they become tax consumers in contrast to tax producers. The second means is to provide the opportunity for economic productivity. This requires both preparation for employment and the opportunity for applying the preparation in a productive capacity.

The Social Setting

The prelude to the Vocational Education Act of 1963 was a national attack on poverty and unemployment. The unique feature of this attack has been the growing emphasis placed upon the development of human resources.

During the past 35 years, the Federal Government has reacted to periods of economic recession with pump-priming methods. The public works program in the early 1930's was one example of this method. The Federal infusion of money was intended to help the private economy to recuperate. Little actual interest was given to improving the skills or productive capacities of those employed in public works programs in order to make them more attractive in the competitive labor market.

In the late 1950's the awareness of the critical role of science and military strength as well as its esteem in the world prompted the Federal Government to undertake massive new support for scientific and technical education.[1]

In discussing this effort, stimulated by sputnik, Barach stated that:

> As if to make up for lost time, the entire national educational resource seemed focused on just one goal: to build and expand upon the new technology.
>
> The information explosion that accompanied this breakthrough in technological learning is so fantastic as to be almost beyond a layman's understanding. Half of what a graduating engineer studies today will be obsolete in 10 years. * * *[2]

However, the many benefits which have resulted from the investment in science and technology have not been without accompanying problems. The technological changes which came about have created demands for many new types of skill specialties. They have also diminished the demand for other types of skills. This has resulted in both frictional and structural unemployment. The increasing complexity of technology has created demands for higher levels of skill with an attendent decrease in opportunities for the unskilled. In effect, the emphasis placed on advancing the technological sciences intensified the problems of unemployment.

It can be seen in table 101 that a high rate of unemployment persisted between 1954 and 1965. The table also shows the rate of unemployment for the nonwhite to be about double that of the white population. Also shown in the table is the lack of available employment opportunity for the 14- to 19-year age group.

The total economy as shown by the gross national product was approximately doubled during these same years, increasing from about $365 billion to approximately $740 billion in 1966. However, the growth in the economy was not equally distributed. The 1967 Economic Report of the President indicates that poverty today directly afflicts 32.7 million Americans.[3] The report notes two general categories of poor households. One includes families headed by an able-bodied male capable of wage earning. The second encompasses families headed by a person who cannot or should not be in the labor force, such as the aged, disabled, or female head of family with children. There has been a substantial reduction of those in the first category during recent years, and the second category is becoming the dominant group of the "hard core poor." [4]

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[1] "Economic Report of the President," January 1966, p. 95.

[2] Arnold B. Barach, "Technology and Education: Yesterday, Today, and Tomorrow," Speaker at the Symposium on "Technology and education in the 21st Century," San Francisco State College, July 1966.

Unemployment in 1966 dropped to 3.9 percent—the lowest rate since 1953. In analyzing the decline Draper stated:

> During 1965, total employment rose by 1.8 million, outstripping the 1.4 million growth in the available labor force. Fully as important as the size of the employment increase was its industrial and occupational pattern. In the private sector of the economy generally and in the goods-producing and related industries particularly, the expansion of employment was outstanding. This was in contrast to the lack of growth in the late 1950's and early 1960's.[5]

Two major developments combined to generate an eightfold increase between 1961 and 1966 in Federal support for manpower programs to enhance the employment and employability of individuals. First was the sustained high level of unemployment experienced during the latter part of the 1950's, which persisted into the mid-1960's. The second development, and perhaps the more significant in the long run, was the civil rights movement.[6]

The concern with unemployment prompted attack on two fronts: (1) Stimulation of total demand for goods and services with consequent increase in employment levels; and (2) lowering of geographical, age, skill, and racial barriers which prevented many individuals from competing effectively for existing jobs.

The civil rights movement initially focused upon civil and political rights of Negroes, particularly school

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[3] "Economic Report of the President," January 1967, p. 138.

[4] Dale C. Draper. "Educating for Work." National Association of Secondary-School Principals, Washington, D.C., 1967, p. 27

[5] Ibid.

[6] Sar A. Levitan and Garth L. Mangum. "Making Sense of Federal Manpower Policy." The Institute of Labor and Industrial Relations, Ann Arbor, Mich., Policy Papers in Human Resources and Industrial Relations No. 2, March 1967, pp. 2–9.

TABLE 101.—*Selected unemployment rates, 1948–66*[1]

[Percent]

Year	All workers	By Sex and Age			By Race		By Selected Groups				Labor force time lost through unemployment and part-time employment
		Both sexes, 14–19 years	Men 20 years and over	Women 20 years and over	White	Non-white	Experienced wage and salary workers	Married men	Full-time workers	Blue-collar workers	
1948	3.8	8.7	3.2	3.6	...	...	4.2	...	...	4.2	...
1949	5.9	12.2	5.4	5.3	...	...	6.7	3.4	5.4	8.0	...
1950	5.3	11.3	4.7	5.1	...	...	6.0	4.6	5.0	7.2	...
1951	3.3	7.7	2.5	4.0	...	...	3.7	1.5	2.6	3.9	...
1952	3.1	8.0	2.4	3.2	...	...	3.3	1.4	2.5	3.6	...
1953	2.9	7.1	2.5	2.9	...	...	3.2	1.7	...	3.4	...
1954	5.6	11.4	4.9	5.5	5.0	9.8	6.0	4.0	5.2	7.2	...
1955	4.4	10.2	3.8	4.4	3.9	8.7	4.8	2.8	3.8	5.8	...
1956	4.2	10.4	3.4	4.2	3.7	8.4	4.4	2.6	3.7	5.1	5.1
1957	4.3	10.8	3.6	4.1	3.9	8.0	4.5	2.8	4.0	6.2	5.3
1958	6.8	14.4	6.2	6.1	6.1	12.6	7.2	5.1	7.2	10.1	8.1
1059	5.5	13.2	4.7	5.2	4.9	10.7	5.6	3.6	...	7.6	6.6
1960	5.6	13.6	4.7	5.1	5.0	10.2	5.7	3.7	...	7.8	6.7
1961	6.7	15.2	5.7	6.3	6.0	12.5	6.8	4.6	6.7	9.2	8.0
1962	5.6	13.3	4.6	5.4	4.9	11.0	5.5	3.6	...	7.4	6.7
1963	5.7	15.6	4.5	5.4	5.1	10.9	5.5	3.4	5.5	7.2	6.4
1964	5.2	14.7	3.9	5.2	4.6	9.8	5.0	2.8	4.9	6.3	5.8
1965	4.6	13.6	3.2	4.5	4.1	8.3	4.2	2.4	4.3	5.3	5.0
1966	3.9	12.0	2.5	3.8	3.4	7.5	3.5	1.9	3.5	4.2	4.2

[1] Adapted from the "Economic Report of the President," January 1967, table B–22, p. 239.

integration, voting rights, and equal access to commercial services. It soon became clear, however, that Negroes and other deprived minorities could not compete on an equal footing in American life without special economic assistance. As President John F. Kennedy stated, "Employment opportunities play a major role in determining whether [civil] rights are meaningful. There is little value in a Negro's obtaining the right to be admitted to hotels and restaurants if he has no cash in his pocket and no job." [7] With that diagnosis, the solutions appeared the same as for general unemployment, more jobs and more training, but there was an essential difference. Without the civil rights movement and the attention it focused upon poverty, reduction of unemployment could have dissolved effective support for continuing public manpower efforts. Instead, falling unemployment only brought the problem of competitive disadvantage in the job market into sharper relief.

Urban Problems

The increased migration of persons from the farm to the city and from the city to the suburbs is a part of the social climate which must also be considered. The movement from the rural areas to the city has been intensified since the early 1930's. However, the transition in terms of employment opportunities becomes more difficult as levels of skills increase. Many poor rural persons have moved and have merely become poor city inhabitants. The internal structure of the city is changing. The middle-class group is moving from the city to the suburbs and is being replaced by the poor. In discussing the problems of the large city, M. Justin Herman made the following observations:

1. The cities are big, getting bigger, and turning into megalopolis.
2. The cities are becoming the havens of poor Negroes who have brought with them the scars of their disadvantaged lives.
3. There is a large volume of deteriorated, crowded, and dull housing, deficient or devoid of decent amenities. For many of the newcomers their shelter is the dregs—the castoffs of those who have climbed up and out of the slums.
4. Cities are becoming so spread out and congested that transportation becomes increasingly critical.
5. Air and water pollution, shortage of water, and waste and garbage disposal have become the nightmare for the city engineer.
6. The growing megalopolis demands more utilities, more public facilities, more educational facilities, more health facilities, more recreation facilities, and more social services at a time when the industries and middle-class taxpayers are departing.
7. Unemployment, broken families, delinquency, disease, and crime boom high in the cities and higher in the urban poor.
8. There is a sullen alienation and even a threat by the have-not citizen with respect to those who have fared better with the good urban life.[8]

As the rural poor and the nonwhite move to the cities for better work opportunities, the work opportunities are moving to the suburbs. The President's Economic Report for 1967 indicated:

> In 7 large metropolitan areas, for example, 975,000 new jobs became available in the suburban ring in the period 1948–62, while the central cities of the same metropolitan areas were gaining only 60,000 new jobs. The city gains were all in finance, insurance, real estate, and services. In manufacturing, the 7 central cities lost 150,000 jobs while the suburban rings gained 250,000.[9]

For the migrant into the city, especially, the nonwhite, lack of low-cost housing, racial discrimination in housing, and inadequate transportation have made it difficult to follow the jobs to the suburbs.

The total population increase within 16 of the largest cities in the United States has been relatively small. A comparison of 1950 with 1960 census figures for the 16 major cities identified in table 102 indicates an increase for only four of these cities. Twelve of the cities declined in total population, ranging from 1 to 13 percent.

Tables 103, 104, and 105 depict the racial composition of the population, the public school enrollment characteristics, and the racial composition of the public schools of 16 major U.S. cities.

The data shown in these tables bear consideration from both social and economic viewpoints.

The percent of increase in public school enrollment, which ranges from 5 to 69 percent in the cities studied, has necessitated budgetary increases for the city school systems. A research study conducted at Stanford University in 1966 entitled "Determinants of Educational

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[7] John F. Kennedy. Civil Rights Message. Washington: U.S. Government Printing Office, June 19, 1963.

[8] M. Justin Herman. "The Discipline of Changing Our Cities," Symposium on Technology and Education in the 21st Century, San Francisco State College, July 1966 (Mimeographed), p. 17.

[9] "Economic Report of the President," op. cit., p. 155.

Expenditures in Large Cities of the United States" clearly identified the dilemma facing city school administrators. In a summary of the Stanford study, the Research Council of the Great Cities Program for School Improvement pointed out that:

> The quality of education in a particular city depends more on what can be locally afforded and on what is locally demanded than on what is needed or ideally desired; until the means are found to reverse that equation and let social policy for education determine the revenues to be allocated to education, the continuing decline of the city is certain * * *

Declining financial ability to support education and increasing requirements for educational services have placed the public schools of America's

TABLE 102.—*Total population characteristics of the great cities, U.S. census 1950 and 1960* [1]

	1960	1950–60 change	1950–60 percent change	Population per square mile
Baltimore	939, 024	−10, 684	−1	12, 520
Boston	697, 197	−104, 247	−13	14, 586
Buffalo	532, 759	−47, 373	−8	13, 522
Chicago	3, 550, 404	−70, 558	−2	16, 138
Cleveland	876, 050	−38, 758	−4	11, 542
Detroit	1, 670, 144	−179, 424	−10	11, 964
Los Angeles	2, 479, 015	+508, 657	+26	5, 447
Memphis	497, 524	+101, 524	+26	3, 851
Milwaukee	741, 324	+103, 932	+16	8, 255
New York	7, 781, 984	−109, 973	−1	24, 697
Philadelphia	2, 002, 512	−69, 093	−3	15, 743
Pittsburgh	604, 332	−72, 474	−11	11, 171
St. Louis	750, 026	−106, 770	−12	12, 255
San Diego	573, 224	+238, 837	+71	2, 944
San Francisco	740, 316	−35, 041	−5	16, 307
Washington D.C	763, 956	−38, 222	−5	12, 442
16 great cities	25, 199, 791	+70, 333		

[1] "Status Report 1967," The Research Council of the Great Cities Program for School Improvement, Chicago, Ill., p. 6.

TABLE 103.—*Racial composition of the population of the great cities, U.S. census 1960* [1]

	White	Percent	Others	Percent
Baltimore	610, 608	65	328, 416	35
Boston	628, 704	90	68, 493	10
Buffalo	459, 371	86	73, 388	14
Chicago	2, 712, 748	76	837, 656	24
Cleveland	622, 942	71	253, 108	29
Detroit	1, 182, 970	71	487, 174	29
Los Angeles	2, 061, 808	83	417, 207	17
Memphis	312, 799	63	184, 725	37
Milwaukee	675, 572	91	65, 752	9
New York	6, 640, 662	85	1, 141, 322	15
Philadelphia	1, 467, 479	73	535, 033	27
Pittsburgh	502, 593	83	101, 739	17
St. Louis	534, 004	71	216, 022	29
San Diego	528, 512	92	44, 712	8
San Francisco	604, 403	82	135, 913	18
Washington, D.C	345, 263	45	418, 693	55
16 great cities	19, 890, 438	79	5, 309, 353	21

[1] "Status Report 1967," The Research Council of the Great Cities Program for School Improvement, Chicago, Ill., p. 6.

TABLE 104.—*Public school enrollment characteristics of the great cities, 1956 and 1966* [1]

	Fall 1966	Fall 1956	Increase	Percent of increase
Baltimore	192, 416	152, 663	39, 753	26
Boston	92, 127	87, 802	4, 325	5
Buffalo	73, 391	63, 561	9, 830	15
Chicago	570, 597	416, 224	154, 373	37
Cleveland	152, 932	119, 522	33, 410	28
Detroit	297, 035	280, 491	16, 544	6
Los Angeles	719, 325	425, 187	294, 138	69
Memphis	121, 723	78, 736	42, 987	55
Milwaukee	125, 567	84, 385	41, 182	49
New York	1, 084, 818	899, 518	185, 300	21
Philadelphia	270, 449	226, 190	44, 259	20
Pittsburgh	76, 661	66, 740	9, 921	15
St. Louis	116, 798	89, 182	27, 616	31
San Diego	121, 878	77, 831	44, 047	57
San Francisco	91, 359	80, 525	10, 834	13
Washington, D.C	148, 149	103, 867	44, 282	43
16 great cities	4, 255, 225	3, 252, 424	1, 002, 801	31

[1] "Status Report 1967," The Research Council of the Great Cities Program for School Improvement, Chicago, Ill. p. 7.

TABLE 105.—*Racial composition of the public school enrollment of the great cities, fall 1966* [1]

	Percent white	Percent other
Baltimore	37	63
Boston	74	26
Buffalo	64	36
Chicago	46	54
Cleveland	47	53
Detroit	43	57
Los Angeles	75	25
Memphis	49	51
Milwaukee	76	24
New York	50	50
Philadelphia	42	58
Pittsburgh	62	38
St. Louis	38	62
San Diego	90	10
San Francisco	44	56
Washington, D.C	9	91

[1] "Status Report 1967," The Research Council of the Great Cities Program for School Improvement, Chicago, Ill., p. 7.

great cities in a double bind so serious that only drastic increases in State and Federal aid can permit city schools to meet the educational needs of their pupils.[10]

The report also enumerates those issues which impose financial burdens on city school systems.

1. Per pupil costs across the country rose more than three times as fast as the average per capita value of taxable property in cities over a 30-year span.
2. Falling assessment ratios over the past 30 years are in effect shielding more and more existing property from taxation.
3. City school systems receive a smaller share of the local tax dollar than rural and suburban systems because of high cost of numerous other municipal services required in large cities.
4. City school systems are often hamstrung by State limitations on their taxing power and State aid formulas which favor rural and suburban districts.
5. City school districts which, in 1930, usually spent more than the State average per pupil, generally fell below the State average over the next three decades.[11]

Further information related to economic disparities in the cities is shown in figures 17 and 18, which depict the percent of change in property value (the major source of tax revenue) compared with expenditures per pupil, 1930–60, and the current expenditures per pupil in selected cities shown in relation to mean State per pupil expenditures, 1930 and 1960.

Pointing out the alarming fiscal position of large city schools, the Carnegie Corporation of New York concluded in late 1966:

> * * * the Nation is devoting many more resources to educating suburban children than city children. Or to put it another way, it is spending much more money to educate the children of the well-off than the children of the poor. And every shred of available evidence points to the conclusion that the educational needs of poor children are far greater than those of affluent children. By any measure one wants to use—pupil performance on tests, dropout rate, proportion of students going on to higher education—the output of the schools in the depressed areas of the cities is very much poorer than that of the suburbs. There is little reason to believe that even to equalize treatement would begin to close the gap. To achieve the substance rather than merely the theoretical form of equal educational opportunity requires the application of unequal resources: More rather than less for the students from poor homes.

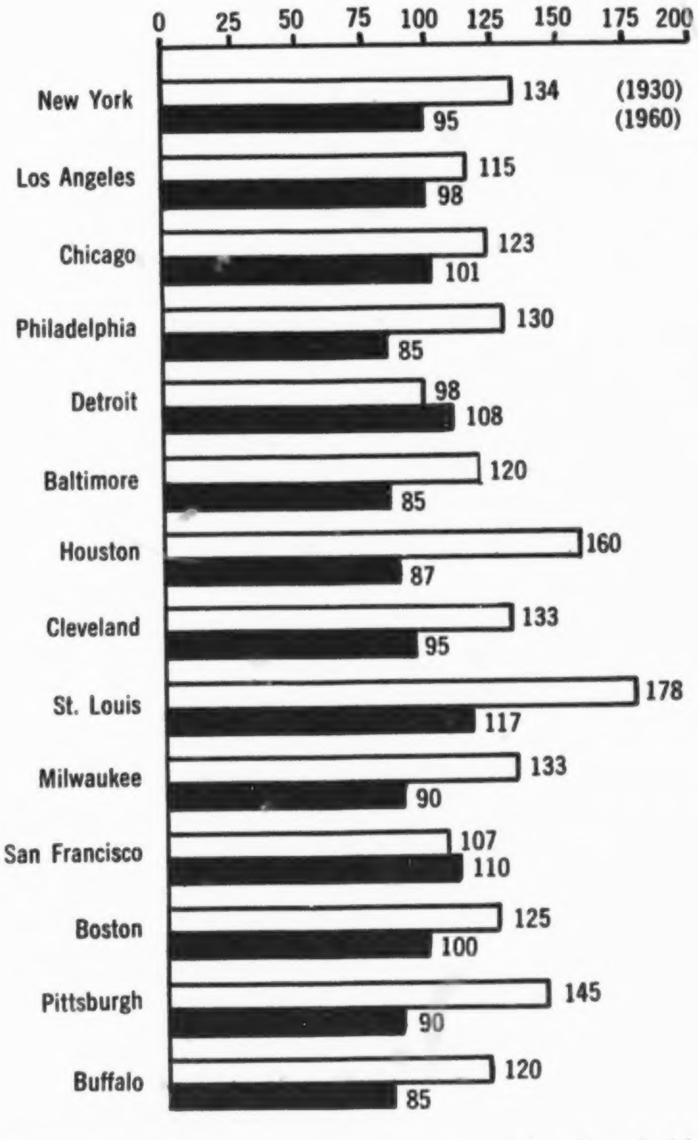

FIGURE 17.—Current expenditures per pupil in selected cities shown as a percentage of mean State expenditure per pupil in 1930 and 1960.[1] [2]

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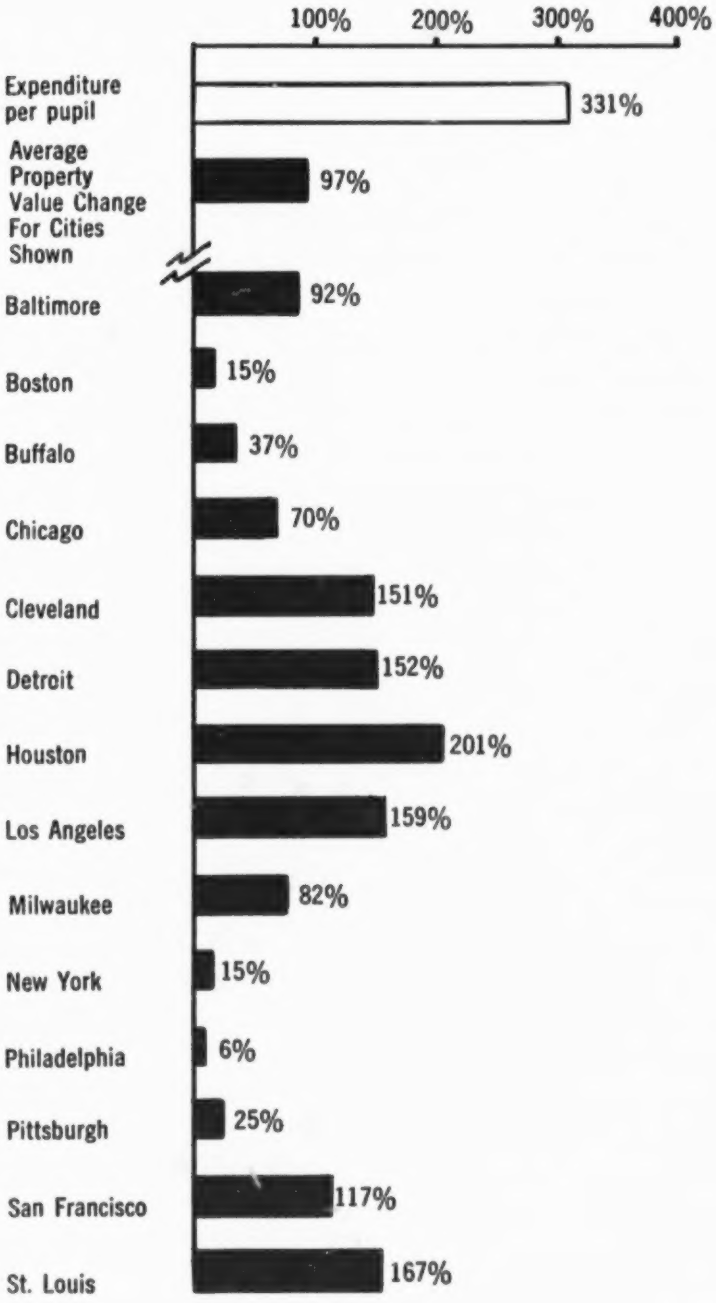
[10] The Research Council of the Great Cities Program for School Improvement. "Why City Schools Need More Money." Chicago, Ill., 1967, p. 12.

[11] Ibid.

[1] That is, the current expenditure per pupil in each city was divided by mean current expenditure for the State in which the city is located. (Sources: U.S. Department of the Interior, U.S. Office of Education, and U.S. Department of Commerce.)

[2] As adapted from "Why City Schools Need More Money," Determinants of Educational Expenditures in Large Cities of the United States, Stanford University, March 1966.



Full market values of property obtained by applying assessment ratios to assessed values; the ratios for 1930 were obtained from National Municipal Review (December 1931), pp. 707–17, and ratios for 1960 were obtained by questionnaire from the school districts. Population data were drawn from U.S. Census reports.

FIGURE 18.—Percentage changes in property values per capita and in expenditures per pupil, in large cities, 1930–60.[1]

> * * * it is clear that the kind of money that is needed simply cannot be raised by the cities from local sources alone. Much of it will have to come from increased State and Federal aid.[12]

Population mobility and population increase tend to overshadow population age distribution and the racial composition of population as two distinct issues facing education and employment.

In a lecture entitled "New Challenges in Tomorrow's Society," Arthur F. Corey states:

> As the total population increases there is also a significant change in the age distribution of the people. It is common knowledge that the young and the old are increasing in number more rapidly than the middle-age group. The rate of increase for the young is so much larger than for the old that the average age of our people has been declining rapidly and will probably continue to do so for some time. When President Kennedy was elected in 1960, the average age of the American people was 33 and by 1968 this figure will have dropped to 25. This is the most rapid change in the average age of the population in American history. It may seem a paradox, but while we all personally get older the nation collectively gets younger each year. During the next 15 years the most rapidly expanding age group will be the young adults who are reaching voting age and entering the labor market. It seems obvious that this fact has tremendous implications in politics, economics, and education.
>
> That there is a wide divergence between our employment ethic and our employment service is obvious. * * * Although the experience is unpleasant, one must inevitably conclude that in the absence of revolutionary changes in American education and economy this disturbing disparity between what we profess and practice will rapidly get worse in the years ahead.[13]

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[1] As adapted from "Why City Schools Need More Money," Determinants of Educational Expenditures in Large Cities of the United States, Stanford University, March 1966.

[12] "The Rich Get Richer and the Poor Get Richer * * * Schools," *Carnegie Quarterly*, vol XIV, No. 4, fall 1966, pp. 1–2.

[13] Arthur F. Corey. "New Challenges in Tomorrow's Society." The Samuel Leonard Fick Lecture on Industrial Education, 27th Annual Conference on Industrial Education, Monterey, Calif., March 1955, pp. 2–3.

THE MANPOWER ENVIRONMENT FOR VOCATIONAL EDUCATION [14]

Vocational education must serve at least two needs: (1) Develop the individual's skills so as to enhance his employability not only when he leaves school but also throughout his worklife; and (2) provide the opportunity to improve the individual's employment status and earnings and to help him adapt to a changing economic environment. It is on this changing environment that we must focus to assess the tasks of vocational education in the years ahead.

The pervasiveness of rapid technological and occupational change can be dramatized in many ways. The devastating impact of technological change upon jobs is evident in the record of developments in some of the major industries in our economy. In the 20-year postwar period 1947–67, a period of great economic growth, when total employment rose by 26 million to an alltime high and rapid expansion took place in many industries, some sectors of the economy sustained very large job shrinkages. Farm employment declined by 4¼ million (that is, by more than half), railroad employment by 850,000 (more than half), textile employment by 360,000 (more than one-quarter), mining employment by 330,000 (more than one-third), employment in the lumber products industry by 230,000 (more than one-quarter), and in the leather, tobacco, and petroleum industries together 140,000 jobs were lost. In these eight industries the total job loss was over 6 million, in the face of a rapid expansion of the total economy over a 20-year period.

One finds the same pattern among occupations. The census of population listed more than 80 occupations in which employment had declined since 1950. These included not only occupations in the shrinking industries, but also some occupations in industries that showed a growth in total employment, such as plasterers and paperhangers in the construction industry, several highly skilled trades in the printing industry, and shoe repairmen and tailors in the growing trade and service industries.

Underlying these declines in employment are changes in patterns of consumption and in technology. Supporting technological change is the growing activity in scientific research and development. The presence of 2.3 million scientists, engineers, and technicians in a work force of 71 million in 1965 (or one scientist, engineer or technician for every 30 workers in other occupations) presages even more rapid technological change in the future.

We can get some insights into the changing manpower environment from long-term projections by the Bureau of Labor Statistics based on its study of occupational outlook, economic growth, and technology. To begin with, the industrial composition of the economy will change markedly. From 1966 to 1975, the major industries producing goods—manufacturing, construction, and mining—are expected to need only 1½ million additional workers, an increase of 6 to 7 percent. On the other hand, the sectors of the economy providing services—trade, government, public utilities, finance, and service industries—will require 10½ million additional workers, an increase of 25 percent. Even within these broad groupings there will be widely differing rates of growth. Among the slower growing goods-producing industries, chemical and electronics manufacturing will both expand rapidly; and within the booming service sector is such a slow-growing or declining industry as maritime transportation. These differential trends in industry employment outlook have implications not only for major occupations characteristic of each industry but also for the cities and States in which the industries are located.

The differential patterns of growth among industries are reflected in the growth rate of occupations. The fastest growing group of occupations will be in professional and technical fields, in which requirements are expected to expand by 40 percent from 1966 to 1975.

The number of engineers and natural scientists that we will need is likely to increase by over a million. In teaching, the largest profession, manpower needs will rise to about 2.7 million in 1975, nearly a half million above recent levels.

The number of clerical and office workers that will be needed is expected to grow by nearly 2 million by 1975, an increase of 23 percent. This increase will take place despite the continued introduction of automation into offices.

An increase of about one-fifth is expected for administrative workers, sales workers, and skilled craftsmen. The smallest growth of all—about 8 percent—is expected for the largest occupational group in America, the semiskilled workers in industry. No increase is expected in the need for laborers, and for farmworkers a continuation of long-term decline in employment is expected.

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[14] Much of the material was derived from a report by Harold Goldstein, U.S. Department of Labor, which was specially prepared for the Advisory Council on Vocational Education.

Table 106.—*Employment of nonagricultural wage and salary workers by industry, 1964, and projected requirements, 1975*[1,2]

Industry	1964	1975	Percentage change, 1964–75
	In thousands		
Total	58, 156	75, 875	30
Mining	633	620	(3)
Contract construction	3, 056	4, 190	37
Manufacturing	17, 259	19, 740	14
Durable goods	9, 813	11, 500	17
Ordnance and accessories	247	250	(3)
Lumber and wood products except furniture	603	550	−9
Furniture and fixtures	406	510	26
Stone, clay, and glass products	612	675	10
Primary metal industries	1, 231	1, 290	5
Fabricated metal products	1, 187	1, 460	23
Machinery	1, 606	2, 050	28
Electrical equipment and supplies	1, 548	2, 000	29
Transportation equipment	1, 605	1, 730	8
Motor vehicles and equipment	755	800	6
Aircraft and parts	604	575	−5
Instruments and related products	369	510	38
Miscellaneous manufacturing industries	399	475	19
Nondurable goods	7, 446	8, 240	11
Food and kindred products	1, 746	1, 665	−5
Tobacco manufactures	89	80	−10
Textile mill products	891	880	(3)
Apparel and related products	1, 302	1, 525	17
Paper and allied products	625	775	24
Printing, publishing, and allied products	951	1, 100	16
Chemical and allied products	877	1, 125	28
Petroleum refining and related industries	183	160	−13
Rubber and miscellaneous plastics products	434	580	34
Leather and leather products	348	350	(3)
Transportation and public utilities	3, 947	4, 425	12
Trade, wholesale, and retail	12, 132	16, 150	33
Finance, insurance, and real estate	2, 964	3, 725	26
Services and miscellaneous	8, 569	12, 275	43
Government	9, 595	14, 750	54
Federal Government	2, 348	2, 525	8
State and local government	7, 248	12, 225	69

[1] Projections assume a national unemployment rate of 3 percent in 1975. The choice of 3 percent unemployment as a basis for these projections does not indicate an endorsement or even a willingness to accept that level of unemployment.

[2] "Technology and the American Economy," February 1966, p. 29.

[3] Less than 3 percent.

Note.—Because of rounding, sums of individual items may not equal totals.

The changing pattern of manpower needs is described above in terms of broad occupational groups; within these groups there are wide differences in the rate of growth in requirements for individual occupations. For example, among the skilled craft occupations, which, as a whole, should grow by one-fourth from 1964 to 1975, a more rapid increase in needs for business machine servicemen and heavy construction equipment operators contrasts with anticipated declines in the requirements for bakers and for printing compositors and typesetters. The differential growth of individual occupations is described in a number of publications of the Bureau of Labor Statistics.[15]

It can be seen from the above very general summary of the major occupational changes anticipated that there will be a greater increase in demand for white-collar workers than for manual workers. The implications are clear that the general educational level of the work force will have to rise; there will be fewer jobs open to workers without at least a high school education. The need for a better-educated work force is also emphasized by the very rapidity of technological and occupational change. No occupation is immune from obsolescence, and this makes it necessary for every worker to maintain the utmost occupational flexibility.

Changing technology affects not only the numbers of jobs available for the members of each occupation but also the skill content of each occupation. These changes in skill requirements are not uniform in the direction they take. For some occupations new technology creates the need for more advanced skills; for others the effect of technological change is a simplification of the skills needed. In the BLS publication "Occupational Outlook Handbook," which describes future employment opportunities in several hundred important occupations, these effects are brought out in considerable detail. Just a few illustrations: farmers have to know a great deal more about scientific and technical phases of their work—fertilization, selection of feed and breeding stock, and animal and plant diseases; the emphasis in work in some of the craft occupations has shifted from participation in the production process per se to maintenance and repair work, which requires diagnostic ability and more all-around

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[15] "Occupational Outlook Handbook" (biennial publication, the most recent edition being that for 1966–1967, issued in February 1966 as BLS Bulletin No. 1450); and "America's Industrial and Occupational Manpower Requirements, 1964–65," prepared at the request of the National Commission on Technology, Automation, and Economic Progress, January 1966.

TABLE 107.—*Employment by major occupation groups, 1964, and projected requirements, 1975* [1] [2]

Major occupation group	1964		1975		Percentage change, 1964–75
	Number (in millions)	Percent	Number (in millions)	Percent	
Total employment	70.4	100.0	88.7	100.0	26
White-collar workers	31.1	44.2	42.8	48.3	38
Professional, technical, and kindered workers	8.6	12.2	13.2	14.9	54
Managers, officials, and proprietors, except farm	7.5	10.6	9.2	10.4	23
Clerical and kindered workers	10.7	15.2	14.6	16.5	37
Sales workers	4.5	6.3	5.8	6.5	30
Blue-collar workers	25.5	36.3	29.9	33.7	17
Craftsman, foreman, and kindered workers	9.0	12.8	11.4	12.8	27
Operatives and kindered workers	12.9	18.4	14.8	16.7	15
Laborers, except farm and mine	3.6	5.2	3.7	4.2	(3)
Service workers	9.3	13.2	12.5	14.1	35
Farmers and farm managers, laborers, and foreman	4.4	6.3	3.5	3.9	−21

[1] Projections assume a national unemployment rate of 3 percent in 1975. The choice of 3 percent unemployment as a basis for these projections does not indicate an endorsement or even a willingness to accept that level of unemployment.

[2] "Technology and the American Economy," February 1966, p. 30.

[3] Less than 3 percent.

NOTE.—Because of rounding, sums of individual items may not equal totals.

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics. "America's Industrial and Occupational Requirements, 1964–75."

skills; accountants have to understand not only increasingly complex tax laws and accounting methods but also the potentialities and application of computers; economists require a much stronger foundation in mathematics. On the other hand, skill requirements are being reduced in many occupations, particularly in the production process. As the automated machine takes over, the distinction between operatives—the so-called semiskilled workers—and laborers becomes less significant. Another factor reducing the skill requirements of production jobs is the tendency for an increasing proportion of the decisions to be taken away from the worker and given to the engineer.

In addition to the changing character of the economy's skill requirements, an important aspect of the manpower environment is the changing geographical location of jobs, and the concomitant migration of workers. From 1939 to 1966, when nonfarm payroll employment in the United States more than doubled, the increase in the New England States averaged only 62 percent, while in the South the rate of increase was 126 percent, and in the Pacific States it was 231 percent.

The shifting location of employment opportunities is accompanied by heavy migration of workers; indeed, the movement of people is even greater, because it responds to personal as well as economic factors. Data on migration from the censuses of population show that four out of 10 men are working in different communities from the ones in which they grew up and received their secondary school education. Thus the schools of an average community must expect that nearly half of their pupils need to be prepared for work in other communities.

Matching Men and Jobs [16]

No specific new programs have been developed for the important tasks of outreach, selection, counseling, job development, and placement. The major reliance has been upon the affiliated State offices of the U.S. Employment Service. Community action agencies have launched their own competing efforts which have been too small in size to reach significant numbers but which have pressured the Employment Service in response to improve and increase its services to the disadvantaged. In addition, the Vocational Rehabilitation Administration, which has long offered comprehensive employability and employment services to its clientele, has had its budget augmented sufficiently to become a major manpower agency.

The U.S. Employment Service

The activities of the Employment Service in administering unemployment compensation and filling employer job orders is well known and does not require description. Less known, and meriting discussion, is the changing orientation of the Employment Service as a result of the initiation of national manpower policy and the concern for the competitively disadvantaged.

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[16] Much of the material was derived from a report by Garth L. Mangum, the George Washington University, which was specially prepared for the Advisory Council on Vocational Education.

The Employment Service, like vocational education, has been the target of harsh criticism, much of it uninformed, as scapegoats were sought for the accumulation of unemployment in the late 1950's and early 1960's. In the process, the Employment Service had been criticized for being too apathetic and for attempting to monopolize the labor market, with being employer rather than worker-oriented, and with not providing adequate employer services to attract job orders for placement of the unemployed.

The buffetings consequent to changing public objectives can be illustrated by changing employment service directions. Little was done except planning until added funds were provided in the first Kennedy administration budget for fiscal year 1962. Small offices were closed and consolidated as heartland offices in the downtown business districts of larger cities. Separate offices were established along occupational lines with emphasis on white-collar and professional employment, with the number of placements the measure of success. Thus on the eve of the manpower and poverty programs the Employment Service was being moved in another direction in delayed response to a 3-year-old challenge.

Just as this change was beginning, it was charged with the ARA and MDTA training assignments. It was no longer enough to screen applicants to see if they had the skills requested by employers. Potential jobs and trainees had to be identified, courses negotiated with vocational educators, and the unemployed trained rather than rejected for lack of skill. Concern for youth employment followed by the antipoverty program stressed outreach to the disadvantaged and put the services where the people were rather than downtown where they were reluctant to go.

The new community action agencies sponsored by the Economic Opportunity Act established neighborhood centers for serving the poor. Distrustful of the Employment Service, as they tended to be of all establishment agencies, they preferred to undertake their own job development and placement activities to serve their own clientele. Most local employment services would probably have been glad to have let them. However, broader ambitions at the national and State levels brought pressure for positive response.

The Employment Service remains ambivalent in its role as a labor market institution primarily filling employer job orders and a broader manpower or even social welfare agency. The pressures of national policy are for services to the disadvantaged. The employer's needs still predominate in most local priorities. Because the Employment Service is 100 percent federally financed with allocation at Federal discretion without legislated authority, national objectives are much more likely to bring local response. The Federal administrators have been reluctant for political reasons to exercise their financial power. However, in contrast to vocational education and other grant-in-aid programs, the degree of Federal control is substantial.

The Human Resources Development Program

Another indication of increasing Employment Service concern for the employment problems of the disadvantaged is the Human Resources Development Program (HRD) launched in August 1966 and now being implemented in all States. The HRD effort represents an expansion of the services of the 140 youth opportunity centers to adults and the addition of a number of rural areas. The HRD program began in Chicago with cooperation between the Employment Service, community action agencies, and the Public Welfare Agency. Individuals living in specified target areas were contacted in their homes by neighborhood workers employed by the welfare agency. Those with employment problems were referred to Employment Service counselors stationed out in neighborhood centers. There they were interviewed, counseled, tested, and referred to training or jobs, or attempts were made to develop jobs for them.

The HRD program in other cities will not necessarily duplicate the Chicago program, but it will focus on the needs of the disadvantaged and provide outreach, access to training, work programs and supportive services, basic employment services, and job development for its clients.

The HRD concept represents a reallocation of Employment Service efforts rather than new resources supplied by Congress. The approximately 2,600 Employment Service positions which have been earmarked for HRD at an annual cost of $30 million have been drawn from personnel provided for MDTA referrals. In addition to HRD, 7,700 positions supplied from the Social Security Act Title III funds at an annual cost of $68 million are currently allocated to serving youth, older workers, minority groups, the rural poor, and other disadvantaged groups.

Issues in Manpower Training

The President's Economic Report defined some of the issues related to manpower and manpower training needs. They offer a relationship between the general social values expressed in the preceding paragraphs and the more specific function of vocational education in manpower develpoment. The issues point up some of the deficiencies and problems which currently exist and which prevent accurate projections of future needs. However, they do offer a direction and rationale for improving the financial support for vocational education.

The large and rapid expansion of Federal training activities obviously responds to a major need, and it is clear that such programs will be and should be further expanded in the years to come. In recognition of this fact, it is important that a number of issues be clearly faced.

1. Manpower training has several interrelated objectives. Different kinds of training programs are needed for pursuing each of these objectives, and decisions need to be made as to the relative emphasis to be placed on each. Broadly speaking, training is needed for three purposes. First, training is needed for the disadvantaged who are barely, if at all, employable without it. Second, training or retraining is needed for workers who suffer no special deprivation or disadvantage other than that they lack the specific skills now in demand by employers. This is a need which will continue—and increase—in an economy marked by rapid technological advance. Third, training is needed to help break immediate skill bottlenecks. To the extent that expanded employment of unskilled workers is held back by shortages of special skills, breaking these bottlenecks can advance the prospects of noninflationary expansion of total employment.

2. The relative responsibilities of public agencies and private employers need to be evaluated. Despite the large expansion of public manpower training, private training activities greatly exceed public. Obviously, the incentive for employers to provide training varies, depending on the nature of the skills involved, the character of the industry and the characteristics of the trainees. Devising special forms of incentive or subsidy which would induce private employers to expand their own training programs is a challenging problem. So far as possible, such incentives should avoid rewarding employers for what they are already doing and what is already advantageous for them to do.

3. Further study is needed of the relative merits of institutional versus on-the-job public training programs and of the contribution that can be made by regular educational institutions of various types to institutional training.

4. The relative importance to be given to the work and the training aspects of work-training programs needs to be specifically considered. There may be clear public purposes to be served in employing the disadvantaged in such programs, particularly in the city ghettos, whether or not any significant training emerges as a byproduct, and even if the jobs have something of a "make-work" character. There may well be a useful role for such programs, but the issues and purposes involved need to be frankly faced.

5. The proliferation of Federal, local government, and private training programs—often designed to serve the same or overlapping clienteles—has led to a number of problems and some inefficiency and duplication, particularly at the local level but also at the national level. Recent Federal efforts have been devoted to improving local coordination, and good results are being achieved in a number of cities under the leadership of the President's Committee on Manpower. There are also problems of coordinating training activities in local areas with other programs designed to serve disadvantaged groups.

6. New methods need to be developed for finding, reaching, and motivating more of the unemployed to undertake training. This requires analysis of incentives, such as training bonuses, earnings allowances for persons receiving public assistance, provision of day-care centers for mothers of dependent children, training allowances for long-term unemployed who have exhausted their unemployment insurance benefits, and many other issues.

7. Most generally, a great deal more study and evaluation of the effectiveness of existing training programs are needed. Very little systematic study and evaluation has yet been made of the rapidly expanding Federal activity in this field. Most of the programs are still very new. Moreover, since some of them are intended to solve problems of special difficulty, there is no traditional standard against which to measure effectiveness. It may cost several times as much to prepare an illiterate youth from the slums for employment as it does to improve the skills of a literate adult with previous work experience. Yet the investments may well be equally rewarding for society. The increase in productivity which can result is only one of the economic benefits, and the benefits are not only economic. Nevertheless, the objectives and benefits should, as far as possible, be quantified and compared with the costs. This is surely important where alternative programs serve essentially the same objectives. Substantial research is needed on the effectiveness of different, and particularly of new, training techniques.

Considerably more knowledge of the population that can benefit from the various kinds of training can help in designing more effective programs. The Federal Government plans a large sample survey early in 1968 to collect more detailed information on the nature, extent, causes, and concentration of unemployment and poverty throughout the United States. In addition, special surveys of ghettos and depressed areas in large metropolitan cities are planned by the Department of Labor. The information will be extremely useful for improving the effectiveness of existing manpower programs, and for designing new programs to combat the unemployment and poverty that remain during a period of extended prosperity.

It is now clear that large sums will be spent for training, over a considerable period of years. Because the objectives are vitally important and their attainment costly, every possible effort must be made to increase the effectiveness of training programs. The Federal Government will undertake this year an intensive general review and assessment of the Nation's needs for training and retraining, of the effectiveness of various methods, of the organization of training efforts, and of the relative responsibilities of Government and industry.

Expanded and improved manpower training—both public and private—is an essential requirement for achieving further reductions of unemployment in a context of general price stability. Through providing the skills needed by an economy undergoing rapid technological change, and helping those who are presently unemployable or only marginally employable to become productive workers, manpower training—along with improved job placement and job counseling, and a reduction of discrimination—can permit a more rapid rate of economic growth involving progressively fuller use of human resources. It can help the Nation avoid the painful choice between the two goals of lower unemployment and stable prices. More importantly, it serves larger human purposes.

A New Dimension

During the sixties, a new dimension has been added to manpower policy. No longer is the emphasis on matching the best man with an existing job, but on providing a suitable job for each man or equipping the man to fill a suitable job. The emphasis is less on manpower as an economic resource and more on employment as a source of income and status for workers and their families. Serving the undereducated, the undermotivated, and victims of discrimination has demanded not only reorientation in the values of employment service administrators, vocational educators, and other participants in manpower policy, but also a whole set of closely interwoven new functions:

1. Remedial education for the children of illiterate parents and the victims of deficient schools;
2. Outreach to seek the discouraged and undermotivated in their native habitat and to encourage them to partake of available services;
3. Adult basic education to remedy the academic deficiencies of those left behind by rising educational attainment;
4. Prevocational orientation to expose those of limited experience to alternative occupational choices;
5. Training for entry level skills for those unprepared to profit from the normally more advanced training which takes for granted the mastery of rudimentary education;
6. Subsidization of training costs to induce employers to accept less attractive employees for on-the-job training;
7. Training allowances to provide support and incentive for those undergoing training and residential facilities for youth whose home environment precludes successful rehabilitation;
8. Work experience for those unaccustomed to the discipline of the work place;
9. Job development efforts to solicit employer support and uncover job opportunities in keeping with the abilities of the disadvantaged job seeker;
10. Creation of public service jobs tailored to the needs of job seekers not absorbed in the competitive job market;
11. Supportive services, such as medical aid, for those who needed corrective measures to enter or resume positions in the world of work, or day-care centers for mothers with small children; and
12. Relocation allowances for residents in labor surplus areas and special inducements to employers to bring jobs to those stranded in depressed areas.

Implications for Vocational Education

All of these changes in the manpower environment have many implications for vocational education in its traditional economic role of facilitating the adjustment of the skills of the workers to the changing demands of the labor market. In a presentation given at a Columbia University conference on curriculum and teaching in June 1967, it was stated:

The most glaring defect in the present piecemeal, ill-coordinated effort to develop manpower at the fringes of society's mainstream is the separation between education and occupational skill development. The urgent need is a systematic approach that meshes a number of programs, now separate, in general education, vocational education, manpower development, adult education, and on-the-job training.

The failure of the schools to provide career preparation to large numbers is partly related to the fact that the Vocational system has no voice in the earlier preparation of students. It has no voice in the grade school, where many students incur crippling educational deficits. Many who could be served are either lost to education before they reach the vocational system, or reach it inadequately prepared because general educators neither understand its processes nor recognize the responsibility to help individuals progress toward vocational competence.[17]

The following proposition was made at the Columbia conference:

> It is high time, therefore, that the schools embrace this mission. The manner in which they do so has implications beyond the disadvantaged student, though his need is the most urgent. The larger implications are of two kinds:
>
> 1. The integration of career consciousness throughout the schools will actually enlarge, not reduce, the number of options and alternatives for individual pupils—both in terms of occupation and higher education.
>
> 2. The work world is a valid component of academic content for all children—a powerful instrument for advancing relevance in the teaching of all subjects, academic as well as vocation, and, in a fundamental sense, a consonant with liberal education.[18]

Vocational education in the narrowest sense, i.e., that provided in secondary schools or in post-secondary institutions below the college level, is not, of course, the only mechanism for skill development. Yet its strategic role becomes evident in the fact that much of the adjustment of the skills of workers to the needs of the economy can take place at the margin; that is, among the new entrants into the labor force. The powerful leverage that can be exerted by skill development in the schools is shown by the fact that nearly one-third of the labor force 10 years hence will consist of persons who are in school today.

In addition to the traditionally accepted role of vocational education in adjusting workers' skills to the demands of the economy, new developments in economic and social policy impose additional responsibilities on vocational education. One of these is the active concern of government with the maintenance of economic growth and stability. Since technological change in the economy is inevitable, we face the likelihood of obsolescence of occupational skills and resulting unemployment at the same time that there are shortages of workers with other skills. Such unemployment is called structural unemployment since it results from imbalances in the structure of the economy. As long as workers are unemployed for lack of the skills industry needs, the growth of total production will be slower than could be expected from the size of the available labor force. Moreover, a strong unsatisfied demand for skilled workers—resulting, for example, from a healthy expansion in incomes and investment or increasing provision of government services in public health, education, pollution control, or other areas needed for the public welfare—would have the effect of pushing up wage rates as employers bid against each other for the scarce supply. Rising wage costs tend to push prices higher. Therefore, the economy is better able to achieve growth and avoid price inflation to the extent that it can reduce the incidence of structural unemployment. Thus the training and retraining provided through vocational education can make a large contribution to maintenance of economic growth and stability. From the viewpoint of the cost-and-benefit approach to public expenditures, the possible benefits of vocational education in this area are immense.

Another new social and economic policy development has been the concern with poverty. When we seek measures to reduce poverty, we find that major factors in poverty include unemployment, part-time employment, irregular employment, employment in low-skilled, low-paying jobs, and the discouragement of workers who, after repeated attempts to find jobs, have finally given up and withdrawn in apathy. Studies have clearly shown that low levels of skill and education are highly correlated with these types of employment problems. This underlines the need for programs not only to develop high-level skills but to give at least minimal skills to those not working at all and to upgrade the skill levels of workers all along the occupational spectrum. In this connection, one of the major findings in administering the Manpower Development and Training Act of 1962 was that the lack of basic literacy was a serious impediment to training for many people. As a result, remedial programs to provide basic literacy became part of the skill development programs supported by the Federal Government. This experience reemphasizes the importance of good general education to good vocational education.

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[17] Marvin Feldman. A paper adapted from a talk given at the Conference on Curriculum and Teaching in Depressed Areas, at Columbia University, June 27, 1967.

[18] Ibid.

Viewing the role of vocational education in this way, two important implications can be drawn from the changing characteristics of the manpower environment.

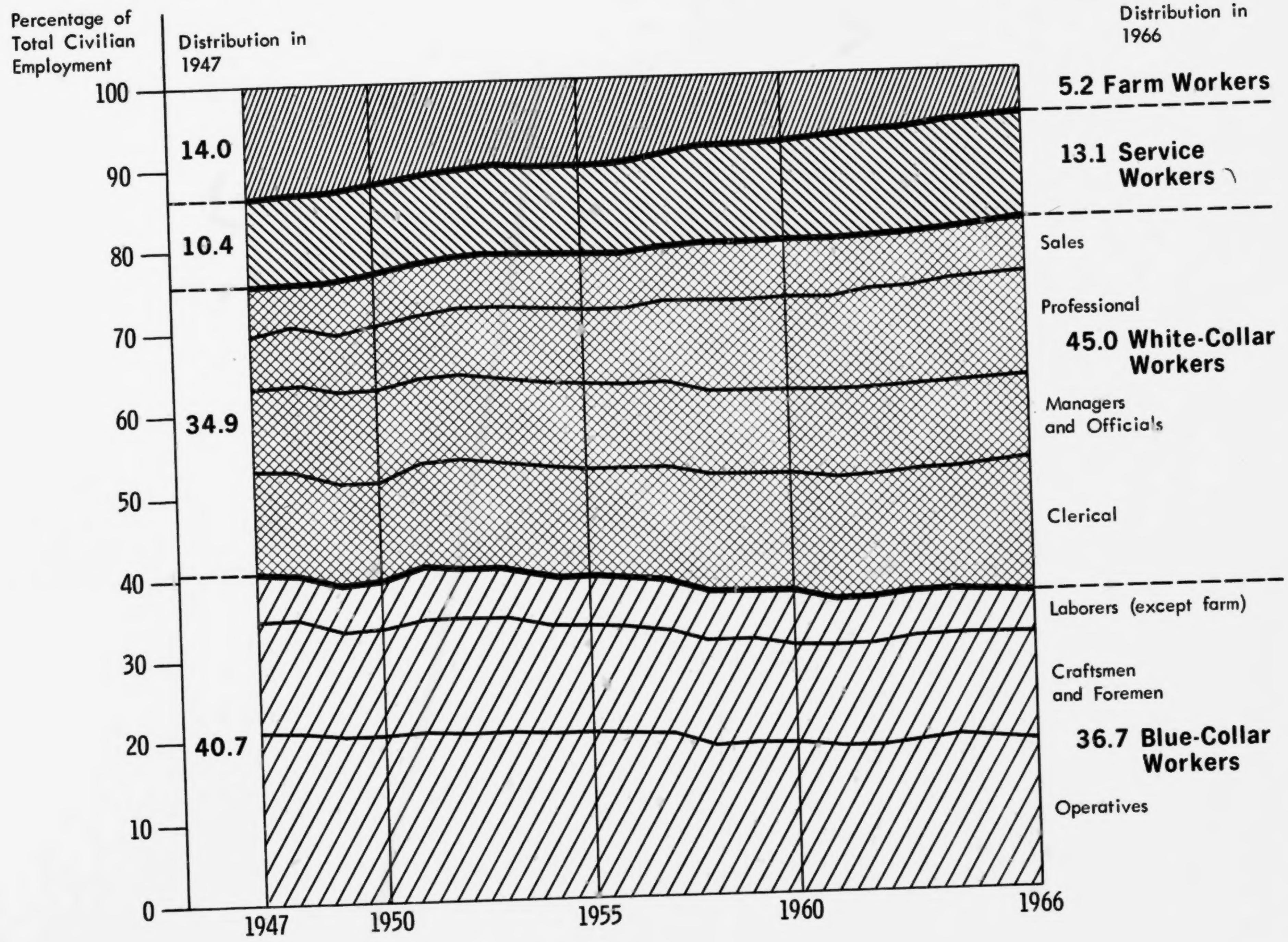
1. *Adaptation of Programs to Changing Needs.* One implication is that there is need for a constant review of our skill development programs, including vocational education, in the light of the best appraisal that can be made of the changing shape of future manpower needs, and technological changes affecting the skill content of each occupation. What is needed here is not so much the occassional major study calling attention to the deficiencies that have accumulated over the past years. It is partly because of our propensity to coast along for long periods without paying attention to emerging changes in the social and economic environment that the educational community has been buffeted by swings from one extreme to another following each new fad in educational thinking. Rather what is needed is a continuous review based on an adequately staffed monitoring of the changes taking place in the economy. The occupational outlook and related research programs of the Bureau of Labor Statistics perform these functions at a national level; a trained staff systematically reviews developments in technology, the growth of the economy, the growth and changing composition of the population and the labor force, trends in consumer demand for each product and in production and employment in each industry, trends in education, apprenticeship and training, and all the other developments affecting the supply and demand for workers. There is need for continued work in this field at a State and local level also. The State employment services are conducting studies to meet these needs.

There is little doubt that the occupational structure of the American labor force is changing and will continue to change. Perhaps the main reason for this is the rapid growth of those industries—education, finance, insurance, health, and business services—which employ predominately white-collar and professional workers. Another reason is the rapid improvement in educational attainment itself. Technological change within industries does not seem to be the major factor, except as regards the declining employment of laborers. Whether changes in the demand for different skills are to a substantial extent placing the new jobs beyond the reach of those losing other jobs can best be assessed by examining the relationship between educational attainment and educational requirements.

Finally, responsible educational authorities need to set up mechanisms for constant feeding of such information into the vocational education system and continued adaptation of the system. Vocational education can use this information in several ways: in review of the relative emphasis of its programs on the various occupational fields in the light of the demand for different occupations, in revision of curriculum content for each field in the light of changing technology, and in providing vocational guidance on the basis of information on changing employment opportunities and the changing character of each occupation.

2. *The Need for Continuity.* A second implication of the changing manpower environment is that the process of worker adjustment to job needs is not confined to his school years but must go on throughout his worklife. Rapid technological change cannot be accurately anticipated for 40 years—the length of worklife. No matter how carefully a worker chooses his field in the outset it may be necessary for him to change occupations in midstream, perhaps several times during his career. This means, first that we must not only equip the worker with an occupational skill, but must also develop his flexibility and adaptability—in improving his skills in his present occupation, in keeping up with technological advances which affect his work, and, if necessary, in learning entirely new occupations so that he can change his occupation, industry, or even residence in order to adapt to the changing demands of the job market.

The task of giving specific content to this generalization, and building it into the curriculum, falls on the educator. Completing the task will require all of his ingenuity, imagination, and competence. Not only must the worker have the highest degree of adaptability that can be given him by a good basic vocational and general education, but he also may need retraining at several points in his career, or continuing education while employed. There are many mechanisms by which this can be achieved, including continuous on-the-job skill improvement, adult education in the evenings for employed workers, sabbaticals for professional workers, union-sponsored retraining programs for their members, and some of the newer mechanisms, such as the Manpower Development and Training Act, which provides training or retraining of unemployed workers who receive an income while in training. Studies of the experience of other countries lead us to believe that the United States has not yet developed its programs in the field of retraining to the extent required by the needs of a dynamic economy.



Source: Manpower Report of the President, April 1966.

FIGURE 19.—Change in distribution of employment, by major occupational groups, 1947–64.[1]

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[1] "Manpower Report of the President," March 1965.

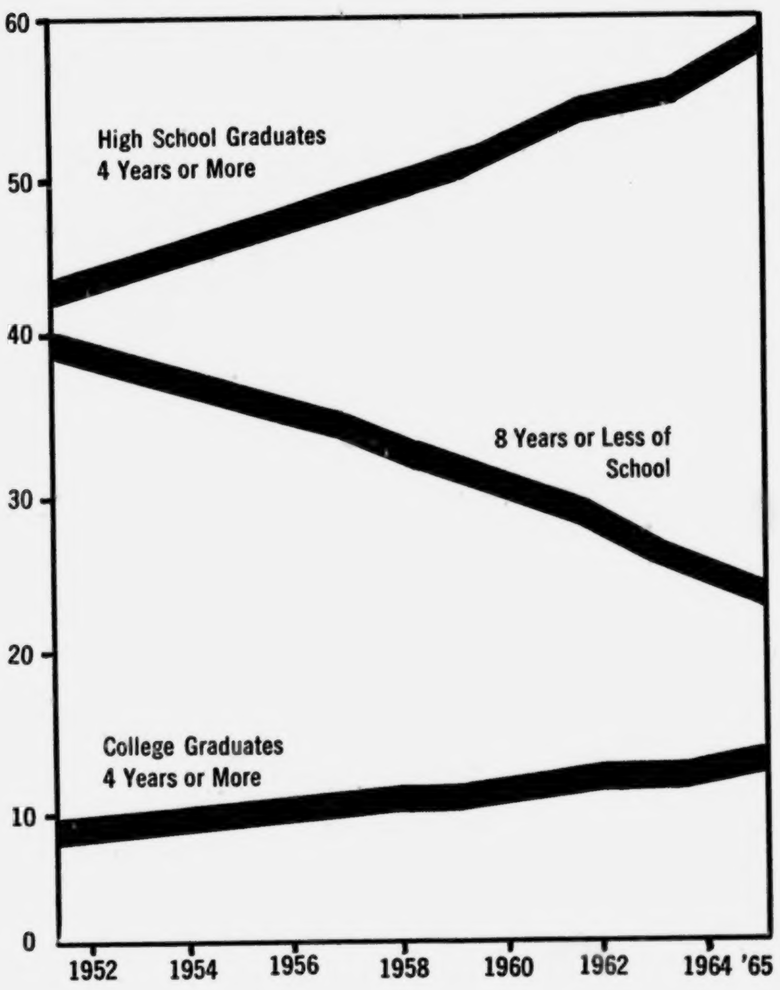

FIGURE 20.—Educational attainment of the civilian labor force, selected years 1952–65.[1]

[1] 18 years old and over.

Source: U.S. Bureau of the Census and U.S. Department of Labor.

TABLE 108.—*Years of educational attainment of the civilian labor force 18 years old and over, by color, 1952–65*

Color	Elementary, 8 years or less	High school, 4 years or more	College, 4 years or more
White and nonwhite:			
March 1965	23.4	57.5	11.6
March 1962	27.0	53.8	11.0
March 1959	30.5	49.8	9.7
March 1957	33.4	47.3	9.1
October 1952	37.9	43.3	8.0
White:			
March 1965	21.6	60.0	12.2
March 1962	24.7	56.6	11.8
March 1959	27.7	52.6	10.3
March 1957	30.5	50.1	9.8
October 1952	34.9	46.1	8.6
Nonwhite:			
March 1965	37.6	37.5	7.0
March 1962	45.2	31.5	4.8
March 1959	53.8	25.0	4.0
March 1957	57.6	22.7	3.5
October 1952	66.5	17.4	2.6

Source: U.S. Bureau of the Census. "Current Population Reports," series P–50, Nos. 49 and 78 for 1952 and 1957 data respectively; Special Labor Force Reports Nos. 1 and 30 for 1959 and 1962 data, respectively.

TABLE 109.—*Median years of school completed by the civilian labor force 18 years old and over, by color and age, March 1965*

Color	Age group in years					
	18–24	25–34	35–44	45–54	55–64	65 and over
White	12.5	12.5	12.3	12.1	10.4	9.1
Nonwhite	11.9	11.6	10.2	8.6	7.5	6.3

Source: U.S. Department of Labor, Bureau of Labor Statistics.

FEDERAL MANPOWER POLICY [19]

The Vocational Education Act of 1963 is significant both for its expansion of Federal investment and its redirection of vocational education efforts. However, this expansion and redirection were not isolated incidents but parts of a major expansion and redirection of Federal manpower policy. The objectives of the Vocational Education Act of 1963 are better understood in the context of the total manpower policy environment in which they were formulated and in relation to other manpower programs designed to achieve the same or related objectives. Therefore, this section defines manpower policy and identifies its overall objectives, provides historical perspectives for the present stage of manpower policy, describes and appraises the Manpower Development and Training Act, the Job Corps, the Work Experience and Training Program, some manpower aspects of the community action program and the vocational rehabilitation program, all of which share common origins and objectives with VEA 1963. It also discusses the complex administrative problems which have accompanied the proliferation of programs.

Manpower policy is concerned with the development and use of human labor as an economic resource and as a source of individual and family income. The relative priorities given these two aspects of manpower policy depend upon the economic and political circumstances. Current manpower policy tends to consider efficient allocation of resources important but secondary to the welfare of the workers themselves.

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[19] Garth L. Mangum, op. cit.

A clear definition of manpower policy is made difficult by its overlap with employment and education policies, among others. But precise lines of demarcation are important only when jurisdictional issues are at stake. It is more useful to define manpower policy in terms of its goals and the tools with which it pursues those goals, grateful that those same goals are pursued simultaneously with other policy tools. The goals of manpower policy are:

1. Employment opportunities for all who want them in jobs which balance free occupational choice and adequate income with society's relative preferences for alternative goods and services.
2. Education and training capable of fully developing each individual's projective potential.
3. The matching of men and jobs with a minimum of lost income and production.[20]

To distinguish it from other policy tools, at least for purposes of this paper, employment policy involves the use of the Federal Government's fiscal and monetary powers to affect the general levels of employment, while education policy is concerned primarily with general education as opposed to training in specific skills. Manpower policy embraces the demand side of the economic equation in the creation of jobs for specific individuals, groups, and locations. It covers the supply side in the development of skills. It bridges the two in the matching process. In its concern for the welfare of workers it inevitably becomes involved in income distribution and wage issues. Manpower policies involve individuals, employers, labor organizations, and State and local governments, but the most significant developments of the past 5 years have been those occuring within the Federal Government.

The Federally Supported Manpower Programs

The complexity of current manpower policy can be traced to the rapid development of the new programs and their interaction at the Federal, State, and local levels (table 112).

The first of the new programs aimed at reducing the competitive disadvantage of individuals and groups was the Area Redevelopment Act of 1961. Its target was the unemployment concentrated in depressed areas and its intent was to attract industry and jobs to those areas. The measure to aid depressed areas received priority, having been twice vetoed by the previous administration. It had been a political issue in the 1958 and 1960 elections and was ready for passage when President Kennedy assumed office. The program floundered because, given the intrasigent forces which had restrained the long-term growth of those areas and the general slack in the total economy, its resources were inadequate to the task and they were frittered away attempting to do too much with too little.

The next effort was to expand the training of the unemployed which had been a miniscule component of ARA. The Manpower Development and Training Act

TABLE 110.—*Appropriations for federally supported manpower programs, fiscal years 1961–67* [1]

[Millions of dollars]

Program	1961	1962	1963	1964	1965	1966	1967
Total	285	338	423	521	1, 394	2, 044	2, 149
Labor:							
U.S. Employment Service	152	186	183	195	206	256	306
Bureau of Apprenticeship and Training	4	5	5	5	6	7	8
Bureau of Labor Statistics (Manpower and Employment)	4	5	5	6	7	8	9
Manpower Development and Training			70	130	397	435	421
Health, Education, and Welfare:							
Vocational Education	50	54	57	57	187	260	283
Vocational Rehabilitation	75	88	103	128	146	231	313
Office of Economic Opportunity:							
Neighborhood Youth Corps					132	272	325
Job Corps					183	310	211
Work Experience					112	150	100
Other OEO Manpower [2]					NA	80	143
Adult Basic Education					18	35	[3] 30

[1] Taken from a paper specially prepared by Garth L. Mangum for the advisory council.

[2] Estimated.

[3] The 1966 amendments to the Economic Opportunity Act transferred funding of Adult Basic Education to the Department of Health, Education, and Welfare.

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[20] Garth L. Mangum, "The Development of Manpower Policy, 1961–65," in *Dimensions of Manpower Policy: Programs and Research*, edited by Sar A. Levitan and Irving H. Siegel (Baltimore: The Johns Hopkins Press, 1966), pp. 29–39.

of 1962 concentrated at first upon the needs of unemployed family heads with a past history—3 years or more—of labor force attachment. Emphasis was placed upon institutional training and allowances, linked to the average levels of unemployment compensation in the State, were paid through the network of local employment offices.

The following year the emphasis shifted to youth. Unemployment of male adult family heads had dropped sharply, but the level of youth unemployment continued to rise, despite overall economic expansion. In 1963, one of every seven white teenagers remained unemployed, and for nonwhites the rate was twice as high. The Youth Employment Act was passed by the Senate, combining the experience of the Civilian Conservation Corps and the National Youth Administration of the 1930's. However, the bill was bottled up by the House Committee on Rules which objected to racially integrated camps. Instead, the youth component of MDTA was expanded, raising maximum allowances to youth from 5 to 25 percent of total expenditures. Federal support of vocational education was quintupled over a period of 3 years, and redirection to a people-serving rather than an industry-serving focus was ordered.

In 1964, the Nation declared total war on poverty, but the beginnings were modest. In line with traditional values, the goal was not to lift the needy out of poverty but to open the paths of opportunity and self-help to them. Wrapped in the poverty ribbon of the Economic Opportunity Act were a series of programs, some conventional and some new, with an initial price tag of $800 million. After a learning period, the antipoverty budget was expected to increase to a level commensurate with the task at hand, but with subsequent events the needed funding never came.

The pending youth employment bill became the Neighborhood Youth Corps and the Job Corps, the former providing work experience and income to unemployed youth, both in and out of school. The Job Corps was designed for those youth whose home environment was the major obstacle to successful education, training, and employment.

Also included in the antipoverty package were funds for adult basic education, a work experience program, enlargement of an experimental effort in the Welfare Administration designed to let relief recipients and other needy persons develop work habits and to work off the aid received, limited loan provisions for self-employment and the Community Action Program (CAP).

The Community Action Program, based on concepts developed by the Ford Foundation's Gray Areas program and the Juvenile Delinquency and Youth Offense Control Act of 1961, was the heart of the poverty act. Practically any project that aims at reducing poverty in a community may be funded by the Community Action Program, provided only that the poor or their spokesmen participate in the planning an execution of the project and that racial discrimination is barred. Employment and training efforts approved under the CAP accounted for about a fifth of the total funds expended during the first 2 years. Other approvable projects included, but were not limited to, remedial and preschool education, health services, birth control clinics, housing and home management, consumer education, legal aid, and social services.

The Economic Opportunity Act was amended in both 1965 and 1966, as funds for direct employment of the poor were added. Under the 1965 amendments, only $13 million were expended for the employment of poor people in conservation and beautification efforts, but this program was expanded sixfold a year later by the Nelson-Scheuer amendment which provided for the creation of subprofessional jobs, and the Kennedy-Javits amendment which emphasized job creation in areas where the poor are concentrated. In addition, CAP has funded the establishment of neighborhood centers which employ poor people from the areas where the centers are located.

While new programs were being introduced, old ones were expanding. The Vocational Rehabilitation Administration had been established in 1920 to qualify the physically and mentally handicapped for productive employment. New legislation, in 1965, authorized the tripling of Federal support and broadened the definition of recipients to include persons with behavioral disorders characterized by deviant social behavior to impaired ability to carry out normal relationships with family and community which may result from vocational, cultural, social, environmental, or other factors.[21]

The budget of the U.S. Employment Service was also expanded, though not commensurately with the added workload imposed by the new manpower programs. As the result of the new responsibilities assigned to USES, its participation in most of the new programs, and competition from community action and other agencies, the public employment service is extending beyond its traditional concerns to outreach, training, job development, and supportive services for the disadvantaged. As Frank H. Cassell, USES director, put it, the mission has changed from "screening out" to "screening in." [22]

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[21] Federal Register, vol. 31, No. 9, pt. II, Jan. 14, 1966 p. 499.

The list is far from complete. At least 27 Federal laws contain provisions for direct financial assistance to persons enrolled in educational or occupational training programs.[23] Nineteen involve higher education and professional training, six provide training for special groups such as Indians, refugees, prisoners, war orphans, and veterans, and Elementary and Secondary Education Act of 1965 provides Federal assistance to improve the quality of education in areas where the poor are concentrated.

Related measures that bear upon the expansion of manpower programs include the Economic Development Act of 1965, the successor of ARA, which expanded the program in aid of depressed areas, and the Appalachian Regional Development Act. While the latter act emphasized road building, which would hopefully make the depressed Appalachian region more accessible to economic development, it also provided for the expansion of federally supported education and vocational training efforts.

Finally, in what could prove to be a significant decision, if it outlasts current manpower needs, Secretary of Defense Robert S. McNamara, in 1966 enlisted the military as a partner in the war on poverty, when he announced that the Armed Forces would lower eligibility criteria to take more disadvantaged youth into military service. The manpower and training programs of the Defense Department have, of course, much broader impact than is suggested by the new plan, which was to draft 40,000 former rejectees during fiscal year 1967 and 100,000 annually thereafter.

The impressive number of federally supported manpower programs under way by 1967 can best be understood in relationship to each other and to vocational education if considered in three functional categories: (1) Those programs which, like vocational education, are charged with the development of skills; (2) those programs providing employment for persons not absorbed by the regular competitive labor market, and (3) those programs concerned with matching skills with available jobs.

Administering Manpower Programs

The past 5 years have been a period of intensive social experimentation characterized by a new sensitivity to old problems of human distress. Though the underlying factors contributing to unemployment, poverty, and other social ills were closely interwoven, the administration and Congress reacted separately to each problem on a piecemeal basis. Numerous programs were inaugurated but with little consideration to their interaction. Newly emphasized needs sparked ideas which were translated into legislation with rarely a pause for intermediate steps of analysis and pretesting. The pattern, typical of a period of innovation, requires no apology. It has produced administrative confusion, duplication, gaps, and overlaps; it has also demonstrated the relative effectiveness of various approaches; and it has served people whose needs were, and are, current and pressing.

Vocational education, like other manpower programs, operates within a currently confused environment. The need is for consolidation of programs and application of lessons learned in a period of innovative public policy.[24] The remainder of this chapter describes the administrative problems created by the programs discussed above and recommends tactics to bring orderliness and efficiency into Federal manpower policy.

The new and expanded programs have provided new knowledge, services, and assistance, though the ledger also contains negative entries. Aside from the duplication in functions, there are imbalances in the distribution of funds among program components, client groups, and communities; conflict among Federal agencies; and confusion at the local level among those confronted with the task of creating a coherent manpower program to meet community needs.

Operations at the Federal Level

From the beginning, established Federal agencies competed for control of the new programs. When the training component was included in the Area Redevelopment Act, the Vocational Education Division of the Department of Health, Education, and Welfare asserted its jurisdictional claims while the Department of Labor insisted that placing the unemployed was the responsibility of the U.S. Employment Service. As a result, the Secretary of Labor was made responsible for the selection of applicants and their placement, while the Secretary of Health, Education, and Welfare was assigned responsibility for the development and administration of the training courses. When the Manpower Development and Training Act followed, and later absorbed the miniscule ARA training program, two additional claimants appeared. The creation of the Office of Manpower, Automation, and Training within the Department of Labor reflected administration and congressional doubts about the capability of the older Federal bureaus and their State-affiliated agencies to administer the new training program. Spokesmen for labor unions were concerned lest the on-the-job training aspects of MDT compete with established apprenticeable occupations. Placing on-the-job training under the auspices of the Labor Department's Bureau of Apprenticeship and Training, where labor unions had considerable influence, helped allay the fears that the new legislation would increase the supply of labor for an already inadequate number of jobs.

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[22] Frank H. Cassell, "Management of the U.S. Employment Service," paper presented at a USES staff meeting, Washington, D.C., Sept. 6, 1966 (mimeographed).

[23] Office of Manpower Policy, Evaluation and Research, Manpower Administration, U.S. Department of Labor. "Federally Assisted Manpower Development Programs, A Planning Staff Study." Washington: The Department, 1966.

[24] Sar A. Levitan and Garth L. Mangum. "Making Sense of Federal Manpower Policy." The Institute of Labor and Industrial Relations, Ann Arbor, Mich., Policy Papers in Human Resources and Industrial Relations No. 2, March 1967.

The Economic Opportunity Act created four separate manpower programs and three new agencies. The youth employment and training program was divided between the Office of Economic Opportunity and the Department of Labor, and a new agency was established in each to administer, respectively, the Job Corps and the Neighborhood Youth Corps. The manpower components of community action were placed in another bureau of the Office of Economic Opportunity, the Community Action Program. Only the Work Experience Program for relief recipients or other needy persons was made part of an existing agency, the Welfare Administration in the Department of Health, Education, and Welfare, an agency which had little experience in administering manpower programs.

To appraise correctly the results of this proliferation of programs with divided interagency and intra-agency responsibility, it is necessary to keep in mind that, with minor exceptions, the manpower programs are initiated and administered by State and local agencies. Only the Job Corps conservation centers are federally operated, and not all of them. Despite congressional enactment and Federal budgetary support, it is misleading to speak of Federal manpower programs. The real problems of program administration under the circumstances are best seen from the State and local levels.

Operations at the State and Local Levels

According to Secretary of Labor W. Willard Wirtz, "There are 15 to 30 separate manpower programs administered by public and private agencies, all supported by Federal funds, in each major U.S. metropolitan area." [25] A recent New York City study enumerates 91 agencies and organizations funded by antipoverty programs in that city.[26]

The personnel director of a large retail firm complained that job developers from as many as 70 different federally funded local programs visited his office regularly seeking jobs for their disadvantaged clients.

A local community action agency established a clerical training course with borrowed, obsolete equipment while openings existed in an MDTA-sponsored course a few blocks away. In another city, MDTA–OJT contracts calling for a $25 weekly reimbursement per enrollee for training costs were being negotiated with certain employers. Local welfare agencies contacted the same employers and, by offering to pay compensation to the trainees as well, got the jobs changed into a Work Experience project. MDTA–OJT contractors seeking subcontracts with individual employers have been known to bid against one another and to offer to underwrite the costs for employees already in training at the employer's expense.

These are horror stories of the type which make good newspaper copy but which cannot be taken as typical. But they do illustrate some of the problems faced by local administrators in initiating and operating federally supported manpower programs: (1) Multiagency administration of particular programs results in delays in review and approval of proposals; (2) various combinations of Federal, State, and local agencies are often in competition to serve the same clientele; (3) programs and facilities may be duplicated and not fully utilized; (4) State and local officials are confused by the variety of programs and the less sophisticated (and often the most needy) fail to get their full share of available Federal support; (5) uncertainty or delays in refunding often cause disintegration of carefuly constructed staffs and programs; (6) each Federal funding source tends to generate its own local constituency encouraging proliferation at the local level; and (7) the overhead costs are increased.

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[25] Testimony before Subcommittee on Intergovernmental Relations, Senate Committee on Government Operations, Nov. 17, 1966.

[26] Institute of Public Administration. "Developing New York City's Human Resources." New York: The Institute, June 1966, p. 13.

A community unified in its approach to manpower problems, knowledgeable concerning the various programs, their funding arrangements and eligibility rules, skilled in the art of grantsmanship and competently represented in Washington has dangled before it an impressive variety of Federal supports, some of which are distributed by fixed formula and others requiring community initiative. The community which lacks sophistication above the maze of programs and regulations may never discover the handles that turn on the spigots of Federal aid.

For instance, funds for outreach can be sought from nine manpower program sources, adult basic education from 10 (in addition to general education sources), prevocational training and skill training from 10, and work experience from five. On-the-job training can be subsidized by five programs and supportive services can be funded from nine sources. Income maintenance is also available to participants under nine programs. The eligibility rules, application procedures, allocation formulas, expiration dates and contracting arrangements vary as widely as the funding sources. The different sources of funds place serious, if not insurmountable, obstacles to the integration of local manpower programs.

The project-by-project approval, typical of the new programs, is cumbersome and time consuming. It results in delays which may discourage clients and in dissipation of well-conceived projects due to the loss of carefully recruited and scarce instructors and other personnel. However, without the project-by-project approach the Federal Government has little means of controlling quality of services and assuring that the most needy are served.

At the local level, the initiative for developing programs can come from diverse sources, Federal, State, local, and private. Some coordination is provided by the traditional role of the State employment service and the public schools. The former is the primary recruiter for MDTA training courses, for out-of-school Neighborhood Youth Corps, and for men's Job Corps centers. In-school Neighborhood Youth Corps projects, most adult basic education, and skill training are handled by public schools. But other local participants are numerous. The multiplication of public and private manpower agencies and contractors at the local level cannot be attributed solely to the nature of the Federal programs. Fragmented local governments are engrained in our political system, but the multitude of Federal funding sources tends to make a bad situation worse.

Program proliferation and multiplicity of funding sources have also created serious inequities among the clients. The pay structure, if it may be called that, provided under the various programs is especially in need of revision, which can best be accomplished by establishing a single funding source.

Different pay is provided, for example, for in-school youth under the Neighborhood Youth Corps, the College Work-Study Program (the Higher Education Act of 1965), and the Vocational Education Act. The secondary school youth enrolled under NYC receives an hourly rate of $1.25 and can work for a maximum of 15 hours a week. The pay provisions of the Vocational Education Act are more frugal limiting monthly pay to $45 and to $350 a year. The Work-Study Program leaves it to each participating college to determine the rate of pay, and in some communities the locally determined hourly rate paid to the college student may be lower than the pay received by his high school brother under NYC.

Despite the administrative difficulties, the few independent evaluations that have been made of some of the manpower programs have shown the benefits to exceed the costs by a substantial margin. The question is not the worth of the manpower programs as a whole but the improvements which can be made. Only the Federal agencies and Congress can bring order and coherence out of the existing chaos.

Experiments in Coordination

The difficulties in administering manpower programs must not be overstated. Faced by the practical necessities of day-to-day operation, administrators at Federal, State, and local levels have developed machinery, both formal and informal, to coordinate the efforts of the numerous agencies and institutions involved. None has provided a complete answer because coordination is at most a second-best solution. It is difficult for equals to coordinate equals. Yet, without the efforts which have been made, there could have been no manpower policy. The experience is worth examining to assess the need for a more satisfactory approach.

Coordination at the Federal Level

The most effective coordination efforts at the Federal level have been ad hoc arrangements between what one subcabinet officer has called the loyal underground of civil servants. The least effective have been those at the Cabinet level where Congress has affixed conflicting grants of interagency supremacy and where search for personal preeminence is added to jurisdictional defenses. In between are a number of formal interagency agreements which are as vulnerable as any unenforceable two-party treaties but which tend to survive because they are mutually convenient.

Coordinating mechanisms have proliferated even more rapidly than manpower programs. However, none of these formal coordinating mechanisms has had any appreciable impact. Obstacles to effective coordination stem not only from the natural tendency of officials to guard their respective jurisdictions, but also from outside groups with special interests in the activities of various departments and bureaus. Even at the intra-agency level, private and public lobbies provide independent power bases for bureaus which make them nearly invulnerable to control by their own agency heads.

On the pragmatic level of day-to-day operation, a number of ad hoc interdepartmental agreements have been negotiated. The intent of the agreements is essentially to protect agency jurisdictions, and these agreements are subject to revocation by either party. Nevertheless, the agreements have provided for joint operation of programs, transfer of funds or the purchase and exchange of services. Possibly, most significant was the agreement negotiated in December 1966 between OEO and the Labor Department which delegated to the latter the operation of the Kennedy-Javits and the Nelson-Scheuer programs in addition to the Neighborhood Youth Corps, already administered by Labor.

More important in light of the conclusion that multiple Federal spending sources are central to the coordination problem are about 200 agreements, equally divided between joint funding and coupling of contracts for specific projects. Under the former, one or more Federal funding sources transfer funds to a single agency which acts as sponsor of a local project. Conversely, the coupled contracts involve negotiations by a local agency with a number of funding sources for the operation of a single project.

Coordination at the State and Local Levels

Local efforts to coordinate manpower programs have paralleled Federal efforts in motivation, approaches, and degree of success. The need for coordination stems from both the fragmentation of the local political structure and the proliferation of Federal funding sources. The measures include attempts at coordination, structural reorganization, and ad hoc agreements. The success to date has been meager.

Community action agencies, the local coordinators of poverty efforts which cut across jurisdictions of long-established institutions—schools, welfare agencies, employment services, health departments and many others—have become embroiled in controversy and have been unable in most cases to mobilize resources in aid of the poor. In a few cities, however, strong city administrators have gained control of community action agencies and used them as vehicles to improve services to the poor.

Mayor Lindsay of New York City has established a Human Resources Administration, hoping to bring all manpower and welfare functions under a single manager who will act as broker for all Federal aid in his broad area of responsibility. The States of Iowa, West Virginia, and Michigan have established Manpower Development Councils for manpower planning and coordination. Before political fortune intervened, Governor Brown of California had directed the relevant State agencies to establish 14 one-stop centers for assistance to the poor.

The Federal Government has done remarkably little to encourage such State and local coordination. Federal agencies have been more interested in developing their own direct relationships with particular agencies. By the spring of 1966, however, concern by some Congressmen and influential State and local interests had led to the creation of three-man teams representing the Labor Department, OEO, and HEW. The teams were appointed under the auspices of the President's Committee on Manpower to coordinate manpower programs in 30 major metropolitan areas.

Since these teams possessed no real clout and lacked control over funds or contracting procedures, their success was dependent upon the personal resources and effectiveness of team members. The better teams did an impressive job. Using the Committee's prestigious name at their primary weapon, they mediated interagency disputes, unclogged lines of communication, negotiated proposals for coupled and jointly funded projects, prodded local officials to submit new proposals, and, most important in the long run, began in a few cities the laborious task of sparkplugging the organization of local manpower councils. In the midst of initial success, however, the teams were withdrawn to supply manpower for the new Concentrated Employment Program. This program, by focusing the efforts of all agencies and programs on small target areas in slums of 19 cities and two rural areas, should assure coordination there but leave no Federal coordinating mechanism at the local level elsewhere. The Concentrated Employment Program itself creates new conflicts, accompanying as it does the model cities proposal for comprehensive urban efforts and the Cooperative Area Manpower System Program for local and State coordination.

The CAMPS Program (Cooperative Area Manpower System) is the most important State and local coordinating effort to date. It grew out of a 1966 effort to introduce a State plan into the MDTA budgetary process for fiscal year 1967. Local and State employment service and education officials were of necessity involved in formulation, and related agencies were invited to participate. In March 1967, the Manpower Administration of the Labor Department won approval of eight other agencies operating related programs for joint planning in fiscal year 1968. The system consists of area, State, and regional coordinating committees which hope to develop joint plans for all of the related programs within guidelines provided by a national coordinating committee. Final approval of the State and regional plan as well as individual projects remains the prerogative of the individual Federal agencies, depending upon the nature of their legislated authority. The potential of the coordinated planning device is yet to be tested. Currently, it appears to have the approval of State and local officials and the determining factor in its success is likely to be the degree of Federal support and emphasis.

While success of all of these formal measures remains to be proven, ad hoc arrangements continue to be worked out among local manpower agencies.

Alternative Solutions

The multiplicity of Federal and local coordination efforts attests to widespread recognition of the problems created by the sprawl of manpower programs. Four broad choices are available, and each could encompass numerous differences in details: (1) Continuation of the status quo, with attention directed to the more serious problems on an ad hoc basis; (2) vesting of coordination responsibility in a higher authority within the executive branch; (3) improvement of congressional supervision; and (4) consolidation of all of the manpower program authority and budgets within a single manpower agency.

Continuation of the Status Quo

The present manpower program structure has advantages which should not be overlooked. Despite difficulties, the programs have worked and people have been served. Rapid proliferation has brought duplication—a cost that should now receive attention. However, competition from new agencies has pressured older ones into new approaches and into serving an eligible clientele hitherto neglected. Funds to numerous local agencies from diverse Federal sources has permitted attack on similar problems from various directions, has broadened experimentation, has stimulated the testing of techniques that might never have been tried. Whether the present structure is retained or a new one substituted in the quest for a more rational manpower policy, it is important to preserve a spirit of constructive competition and innovation.

Added to these clear contributions of the present proliferated structure are a number of more equivocale ones. Some argue that Congress has been willing to appropriate more funds to the numerous manpower programs than it would have appropriated to a single, integrated program. Others counter that most manpower funds have been handled by the same appropriations subcommittee in both Houses, and that Congress might even have given more generous support to a well-integrated and possibly more effective composite program.[27] The present system puts a considerable premium on local initiative, allowing progressive communities to design their own programs to a substantial degree by picking and choosing among the Federal funding sources. However, it is not clear whether the result is survival of the fittest or survival of those with the most political expertise. At any rate, the distribution of funds does not necessarily reflect need. The final defense of the status quo seems to be mere resignation: "Unification of the manpower agencies is not in the political cards, so let's learn to live with proliferation."

Consolidating Coordination in the Executive Branch

Coordination efforts at the Federal and local levels have clearly improved a difficult situation. Informal coordination has made the programs more workable. Formal coordination, on the other hand, has accomplished little. It suffers, in the main, from lack of enforcement powers. Equals can cooperate if they care to do so, but they cannot effectively monitor each other's efforts. The Exectuive Office of the President certainly has coordinating power, but it also has other weighty matters with which to deal and other desired goals claiming priority. The Bureau of the Budget, in particular, has coordinating authority; but, in reality, its leadership has to compete with other department heads for Presidential influence.

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[27] For exploration of these and related points, see R. Thayne Robson and Garth L. Mangum, "Coordination Among Federal Manpower Programs," in *Critical Issues in Employment Policy,* F. H. Harbison and J. H. Mooney, editors (Princeton University, 1966), pp. 123–54, and Sar A. Levitan, "Washington Notes," *Poverty and Human Resources Abstracts,* July–August 1966, pp. 17–20.

Strengthening Congressional Supervision

Once having established a program, Congress can oversee its administration and its results in two ways. The authorizing committees can conduct reviews at their discretion, and the appropriations committes also have annual occasion to review results and anticipated funding needs. However, time and staff are never sufficient for adequate review, and congressional committees, to a considerable degree, have to depend upon the Executive agencies for data and program evaluation. Congress could improve matters by reconsidering the legislation adopted piecemeal in the past and by recodifying existing laws to eliminate overlaps and fill gaps. But Congress generally has to confine itself to broad policy. Administrative guidelines and program direction must be provided by the executive branch and cannot become responsibilities of the legislature.

A Unified Manpower Agency

A workable manpower policy is achievable under any one of these three alternatives, and the latter two can provide distinct improvements in the current situation. However, each alternative and even the combination of all would fall short of dealing effectively with the issues. On the other hand, consolidation of all Federal support for manpower programs within a single agency, the fourth alternative, offers a fundamental solution, and it is also compatible with effective coordiination efforts and strengthened congressional attention.

DESIGN FOR A FEDERAL MANPOWER AGENCY

Merely to place overlapping and sometimes conflicting programs under a single roof would not, of course, solve the problems of interagency conflict or proliferation of funding sources. However, to bring all Federal manpower programs into a single agency would force Congress and the administration to examine the interrelationships and to confront more explicitly the overlaps and gaps. The answer is not just to bring existing programs under one roof, but to combine all Federal support for manpower programs within one Federal agency, dissolving the current individual programs but sustaining their aims and functions more meaningfully in a single integrated program. The new agency should absorb the budgets of the existing programs providing Federal support for State and local endeavors concerned with the preparation for jobs requiring less than a 4-year college education, the placement of people within those jobs, the provision of employment opportunities to persons unable to compete effectively for existing jobs, experimentation with new approaches, and the gathering and analysis of labor market information.

Thus, all the current functions could be supported more rationally and with less administrative overhead, providing more effective administration as well as more value for the money.

Current interagency competition within the programs to be consolidated would disappear, and intraagency competition would be reduced. The positive gains from competition could be maintained through research, experimentation, and demonstration.

Another difficulty confronting the manpower programs has been the fact that staffing has not increased commensurately with the eightfold increase in budget since 1961. Unification of the manpower programs and an increased reliance on grants-in-aid might be expected to allow a reduction in personnel requirements. However, high-quality personnel will be needed for the more demanding roles of evaluation, monitoring, and technical assistance, and the savings derived from reorganization would no more than make up for the deficiencies of current staffing.

The potential for discouraging local proliferation in and for encouraging more rational program budgeting is especially important. A single Federal manpower program funding source would no more solve all local coordination problems than it would all those at the Federal level, but it would turn the net Federal influence from encouragement of proliferation to encouragement of local rationalization and consolidation. At the same time, Federal encouragement to local coordination could and should continue.

The loss of the positive aspects of interagency competition would have to be offset in any combination of manpower programs. It has been suggested that the administrative risks are diminished if spread over numerous agencies. This admonition, however, hardly argues against the consolidation of manpower programs, as the Federal role is largely that of funding State and locally operated projects. A series of small decisions made by a single Federal agency need not be any more risky than the aggregate of a series of small decisions made by administrators in several agencies. The advantages of a single Federal manpower agency would seem to outweigh the disadvantages by far.

The goals of manpower policy are job creation, skill development, and placement. To assure innovation, a fourth should be added: research, experimentation, and demonstration. The current emphasis in Federal manpower is on remedial services for these competitively disadvantaged.

A unified manpower agency would include as a minimum the Manpower Administration, the Vocational Rehabilitation Administration, the Work and Training Programs of OEO, all of which, except the Job Corps are already delegated to other agencies, and the Adult and Vocational Education Programs of the Office of Education. Training activities of the Veterans' Administration and the Bureau of Indian Affairs could be included, and a case could be made for the inclusion of public welfare activities as well. A more important consideration, however, is the relation of training and employment to education. In an increasingly sophisticated economy with continually rising educational attainment, educational achievement is more important to employability than the possession of specific occupational skills, important as the latter are. An ever rising proportion of the population gains its occupational skills in technical and higher education. The Manpower Development and Training Act, the Job Corps, and other training, as well as the work programs, are designed primarily to compensate for earlier educational deficiencies. The Elementary and Secondary Education Act and Head Start, as well as Adult Basic Education, clearly have employability as their ultimate goal. The trend in vocational education is to integrate more closely and at younger ages general education, career development, and vocational education. For all of these reasons and more, all Federal funding sources for all employment and employability programs should be integrated with Federal education programs.

The logic of the argument is clear. The Manpower Administration currently represents 80 percent of the Labor Department's budget, but it has only a peripheral relationship to the labor relations and labor standards activities of the Department. Its dependence upon the services of the Bureau of Labor Statistics is more direct, but there is no administrative interaction. The Office of Economic Opportunity plays an important role as the conscience of the administration and advocate of the poor. It has not distinguished itself as an operator of programs and has gradually delegated more and more of the Economic Opportunity Act programs. Though its objectives are broader, the total budget of the Office of Education is inextricably linked to employability, while the Office has no integral relationship with other HEW programs other than Vocational Rehabilitation. The latter has profited politically and financially from its relationship with health programs. However, its objective is employment, its involvement with other manpower and poverty programs is growing, broadening definitions open up possibilities for serving the socially and economically handicapped, and vocational rehabilitation techniques offer a model for rendering manpower services to the hard core unemployed. All should be combined in a Department of Education and Manpower. Duplicative programs should be dissolved and funding allocated for assistance to the States along functional lines: general education, skill development, job creation, placement, and supportive services, and research, experimentation, and demonstration. Within this context, the objectives of education, of manpower policy, and of the role of vocational education as well as other programs would be clarified and efficiency enhanced.

SUMMARY AND IMPLICATIONS

A rapidly expanding economy, caused in large part by technological advancement, has been accompanied by serious national problems. The problems center around the growing social and economic disparity caused by underemployment and unemployment. Technological advances have created a demand for workers possessing higher levels of educational skills and an attendant reduction in demand for the lesser skilled. As a result of these conditions, pockets of poverty have developed and exist in many parts of the Nation, especially in the large cities.

The impact of technology has created significant changes in the makeup of the Nation's work force. The Bureau of Labor Statistics has projected a relatively moderate expansion of the work force, 6 to 7 percent, in the major goods producing industries, and a large increase, 25 percent, in the service sector of the economy.

To aid those most seriously affected by the problems, Federal legislation was passed to offer economic relief and to provide occupational training. The MDTA, ARA, and OEO acts are examples of such legislation.

These acts served primarily a remedial function and were not aimed at elimination of the causes of the problem.

Later legislation such as the Vocational Education Act of 1963 and the Elementary and Secondary Education Act are structured to attack the root of the problem. While the remedial legislation has been criticized from many quarters, it does serve a valuable purpose in highlighting and emphasizing in the problems of that portion of the population which the educational system has failed to accommodate.

Education has been remiss in providing all students with career decisionmaking capabilities and salable skill development. However, it is apparent that educators have become sensitive to this deficiency and are willing to assume the mission of meeting the real needs of all students. This change has been due, in part, to the galaxy of programs which have been developed outside of the formal educational system.

With the assumption of responsibilities by educators and with the economic resources made available through such acts as VEA 1963 and ESEA there has been generated a direct attempt to improve the educational system. The short period of time that this movement has been underway limits the degree to which success can be claimed. However, there is increasing evidence that significant progress is being made. To support the contention that progress is being made, some of the programs which appear to be significant in providing direction for improvement are identified in the chapter "Innovations and New Directions."

Chapter 12

Innovations and New Directions

The American educational system is engaged in a period of research and experimentation. The changing climate of our socioeconomic structure is constantly placing more demands on education and its effect on the development of human resources. The challenge of attaining balance between the Nation's public school system and the needs of the times establishes the need for a careful diagnosis of the efficiency of the system in meeting its goal of providing an equal educational opportunity for all persons. In this study, two questions were central: (1) What are we now doing in vocational education?, and (2) In what direction shall we move from the present position?

In order to avoid long-term maintenance of traditionalism and obsolescence, there must be a systematic and continuous process for providing data necessary in making those decisions essential for planning and implementing contemporary and viable programs. It is, therefore, essential that any assessment of vocational education must also take into consideration those other facets of the curriculum which may enhance or detract from the vocational program.

The accelerating change of the American society through technological change and economic affluence has placed many new demands on education. The growing realization and acceptance of the fact that education rests as one of the essential cornerstones to continued social-technical-economic progress has created the demand not only for more, but for better, education at all levels. The demand is evident by the greater numbers of youth who are completing high school, the increasing percentage of high school students entering the next level of education, and the large numbers of persons now in the workforce who are returning to school for personal or economic self-betterment.

Accompanying the growing demand for education is a concurrent demand for study and evaluation of the type, quality, and economic factors of education. The demand appears to be generated by the growing social and economic inequality which separates those who can or will, and those who cannot or will not take advantage of the available educational opportunities. Education, at all levels, has been made available to more persons as is evidenced by the tremendous postwar investment in facilities and programs. The general response to the increased opportunities has resulted in a continued demand for expansion, with most States unable to maintain building programs which keep pace with the rapid rise in school enrollments. However, the demand for education has not come from the total population. This is confirmed by the large number of students who become school dropouts. While the percentage who remain in school increases, the actual number of students who drop out remains approximately the same each year.

In the not too distant past, the dropout caused no great problem. In fact, there was a general attitude which prevailed both in and outside education that if the student did not like what he was getting in school, he could quit and go to work. Work, therefore, became a form of education providing an alternative system to those who dropped out or who were not accommodated in the traditional college oriented formal educational system. The doors of this second system of education have been closing rapidly to the type of student who formerly used it as a second chance. It remains open only to those who already possess an entry skill. As the opportunities of a second chance for the school dropout decrease, the social-economic problems associated with lack of employability increase. This, in turn, has called for a re-evaluation of the total educational system. It has raised the question: Which has failed—the student or the school? As a result, there has been an active pursuit, through research and experimentation, of methods by which students can be retained in a meaningful learning environment. The methods under study have been concerned with both course content and teaching methodology. Attempts are also being made to prevent the student from dropping out. In most instances, these have taken the form of an earlier identification of the underachieving and non-motivated learner, a determination of reasons for lack of interest, and then, through counseling and program development, a stimulation of the student to better accomplishment.

Not all students leave school because of incapacity or lack of interest. Financial limitations are often a cause for students to terminate their education. In recent years, much attention has been given to this problem. Work opportunities, scholarships and grants, and low-cost student loans have been made available to students with financial need. These efforts have been made by educational institutions, private foundations, industry, lay and professional associations, and State and Federal leislatures. While there is still much to be done, progress has been made in removing the economic barrier to education.

THE NEED FOR CHANGE

A variety of conditions have coalesced to create a pressure upon the educational system to change and become more responsive to the needs of students and society. The changes called for are many and varied. They call for such things as maintaining, expanding, and improving existing programs; developing new programs to meet the needs of persons not presently successful in regular programs; developing programs for persons with special needs in order that they may achieve their optimum social and economic potential; and continually reviewing and evaluating the educational process to achieve the greatest degree of efficiency and effectiveness possible.

The pressure which is being brought to bear on schools for change is an important and necessary stimulus. However, change generally results through professional involvement motivated by pressure. If change is desirable, then what are the controlling factors which either hinder or release the efforts necessary to stimulate changes? The first element necessary to stimulate change is the recognition of a problem. With specific relationship to vocational education, there are a number of problems which are both internal and external.

The international problems are concerned with the implications of traditionalism, separateness, and the limitation of opportunities for vocational education for many students.

The external problems are generally concerned with high rates of unemployment, shortage of skilled manpower, and the growing economic and social disparity between the employable and the unemployed.

There are also strong feelings that the federally reimbursed vocational education programs are not consonant with the manpower problems which confront the Nation, nor are they in keeping with the needs of many students. On the other hand, there is a general recognition that vocational preparation is an essential element in the ultimate solution to the problems of social and economic inequity.

Typically, the continuation of established practices has largely dominated the vocational education scene to date with several shortcomings as a result:

1. Justification for vocational education support has been largely assessed at the Federal, State,

and local levels by the growth in enrollment within fixed program categories that represent a narrow segment of the world of work opportunities.

2. The number of students represented in the secondary school vocational education categories is negligible compared with the total population age group represented in the public school system that could profit from and needs occupational preparation.

3. A tendency exists to segment the total formal educational process into two entities, commonly classified as general and vocational education. The respective components of each, operating largely in isolation from the other, tend to perpetuate separateness, both in curricula offering and in student body distribution. This separateness poses a major concern.

4. The continued emphasis on developing new courses or expanding conventional vocational programs and fitting youth and adults into them misses the target of accommodating all personal needs within the total educational framework.

5. Similarity of vocational education programs at various levels and fragmentation rather than sequential orderliness have prescribed needs for articulation and subject matter content studies.

Although these problems require resolution, the schools have designed few educational adjustments and alternatives to alleviate them. Faced with a dearth of information and stimulated by problems and uncertainties, a number of research projects and innovative programs have been undertaken. Interest in improving the vocational opportunities through education is not limited to the vocational educator. It comes from many sources. Private foundations, professional associations, State and local governments, as well as Federal legislation have provided economic and professional resources directed at improving the vocational opportunities for all citizens.

While these efforts are relatively recent and the results not yet certain, there does appear to be evidence that certain trends and new directions are beginning to emerge and take shape.

Curriculum development efforts since World War II, and until recently, have largely been devoted to updating and reorganizing those academic disciplines generally considered to be preparatory for college entrance. The educational philosophy of meeting the needs of the student and individualizing instruction has been given far more "lip-service" than practice.

Hence, curriculum efforts have been oriented to the vertical development of the disciplines, resulting in layers being added to layers. Vocational education has not been immune from the same practice. Much of the curriculum efforts in vocational education have been devoted to more of the same piling up of courses.

Currently, there appears to be a movement away from the continued practice of course development to one in the direction of program development. The major characteristic of this movement is to view the total educational program in relationship to the several roles the individual must play in his life. That is, education must be regarded as a planned, unified program to serve the life needs of every individual, rather than as a series of segments which hopefully will prepare him for his role in society.

Within this frame of reference, vocational education becomes a fully essential part of the educational effort. It can no longer be treated as a stepchild, appropriate only for the lower ability, poorly motivated, or socially deviant student. Vocational education must be planned for every student and planned within the context of the total curriculum.

A significant element in Public Law 88–210 and other recent legislation on education has been the recognition of the need for research and experimentation. The same recognition has been shown by other private and public agencies. A considerable amount of the recent research in education has been generated and sponsored by foundations, associations, and other sources.

INNOVATIVE PROGRAM CHARACTERISTICS

Unique in many of the current innovative programs is a concern for making effective vocational education available to students who have been overlooked or who are unwilling or unable to profit by the regular vocational programs. Such innovative efforts do not necessarily compete with or challenge on-going programs, however, in many instances they have a residual benefit that in addition to meeting their primary purpose they also offer ways and means for improving existing programs.

At a 3-day session conducted in Washington, D.C., by the advisory council staff, 10 educators, representing vocational education programs considered as exemplary and recognized nationally for their achievements, were asked to formulate a composite of their views regarding new directions for vocational education. The representatives of the selected programs developed a series of commonalities and interrelationships which offer a baseline for new directions in vocational education.

One of the most common problems cited by the participants was the number of programs in which students were unable to perceive the value or need of the informational content.

The lack of relevancy in the teaching of isolated disciplines causes many students to lose interest and motivation. One of the common components of the representative programs was a concern for making education more relevant and meaningful for the student. The mutual problem of accomplishing this in both general and vocational education was evident from the structure of the programs which are described in this section. Several of the programs are structured to make general education more meaningful through its practical relationship to vocational education. The converse is true in other programs where vocational education or information are resultant from the general education. The integrated and complementing function of the one to the other is seen as one of the more significant trends taking place.

There was also concern about the chasms which exists between the levels of education and the meager opportunity for coordination of efforts between them. One of the common characteristics which apeared to be an integral part of the programs and projects represented by the consultants was the recognition of the need for more comprehensive planning. There was general agreement that the success of innovative programs was largely dependent upon and directly related to the degree of unity which could be formulated for the total program.

In the following brief descriptions of the projects represented it can be noted that a variety of approaches are used to more fully articulate the innovative efforts with the total educational process.

Comprehensive Planning

The "zero-reject" concept developed for curriculum planning in the San Mateo Unified School District, San Mateo, Calif., is an example of one approach to comprehensive planning. The zero-reject concept assumes: (1) That the state of the art in education today makes it possible for every student to earn a high school diploma with significant standards and a broad liberal and vocational education; (2) that more individualization of education is possible through a wider variety of known learning strategies, even though much more research is needed in this field; (3) that vocational education and general education are mutually supportive and equally necessary; one does not take precedence over the other; (4) that work in and of itself can be a rewarding element of the full life beyond economic independence, and it is a common denominator of concern for all Americans; (5) that practically speaking, there are no unskilled jobs, only unskilled people; (6) that the schools have the responsibility for seeing that students are employable whenever they choose to leave school; that may be as a dropout from grade 10, or with a doctorate after 23 years of education; (7) that educational goals can be expressed in terms of cognitive, affective, and psychomotor skills, and that each occupation requires a differing mix; (8) that occupations can be grouped by clusters and by levels, and that they form ladders of progression through the various educational levels; and (9) that education is a lifelong process and that the school provides the direction and climate for continued learning. Within the context of the zero-reject concept, disciplines are established for the convenience of teaching and understanding. The fact that they have become institutionalized into separate watertight compartments in the schools has been largely for the convenience of administration. If performance objectives can be stated clearly, it is then possible to utilize discipline components to build a mix amenable to the student's own learning strategy. By progress checks built into evaluation and achievement in each small learning package, it is possible to know where the students is and how he can be helped. In this way, the teaching process becomes the institutionalized management of learning instead of the vehicle for surveying abstractions.

Earlier Introduction to Vocational Information

The question about when vocational education should start in the education process is one of serious concern. There are those who advocate, in light of the trend for students to stay in school longer, that vocational preparation should be postponed until the post-high-school level. Others point to the large numbers of persons who do not complete or go beyond high school, and they maintain that vocational education should be a function of the high school. From both points of view, vocational education is seen within the limited perspective of entry level job training. But there is also a growing acceptance of the need for a continuous vocational education from early childhood throughout life. This can be inferred from a report prepared for the Commission on Technology, Automation, and Economic Progress. It stated that:

> Nothing short of education throughout the entire lifespan is sufficient to provide individual fulfillment and mastery of the environment. Because culture changes which once encompassed centuries occur now in a decade, man's ability to manage change requires continuing education throughout life. The general educational level of the public governs the pace with which new knowledge can be absorbed, adjustments made to new developments in science and technology, and solutions reached to concomitant social, political, and economic problems. There is no such thing as terminal education. Lifelong learning is a universal necessity since we are living in a learning society.[1]

A project underway in New Jersey supports the potential values of vocational education for its informational and motivational values, and its relevance to the elementary school level.

"Technology for Children," a project sponsored by the New Jersey State Department of Education and the Ford Foundation, exemplifies the mutual value of vocational information and general education. This project was initiated with two basic objectives: (1) To enhance learning at the elementary school level, and (2) to enlarge the child's understanding of vocational choice and to develop his economic competence in a changing world of work through establishing a systematic program of occupational education throughout grades K–12. The rationale for the program was an attempt to help children develop a way of thinking where design is construed to mean the seeking of the simple, direct solution to a problem. The program also provides an environment where children can test their solutions, as well as try out and increase their effectiveness in dealing with the materials of the environment.

It should be noted that as the emphasis moves from vocational training for a specific occupation to vocational education in the broader sense, it begins to encompass the entire spectrum of the educational system. Early experience from MDTA and other remedial programs has demonstrated that this is an essential characteristic necessary to render people employable. The initial MDTA programs were designed for specific job placement training. It was discovered that for many vocational preparation was ineffective because they lacked a sufficient development of basic educational skills, and it was necessary to incorporate basic education as an integral part of the program. This same condition has been reported as a problem in ARA and OEO programs as well. It should also be noted that the experience derived from these same sources suggests that there has been a positive response by students to the inclusion of basic education in the program. As it becomes a part of his vocational preparation, the relevancy of the basic education becomes clear and is accepted, whereas the same information formally presented in isolation was rejected.

The problem appears to be more in the nature of variety, scope, and sequence. As orientation and informational programs are developed at the elementary and junior high school levels, the need for articulation between all levels and all disciplines will increase, and as articulation between levels takes place, it will reflect the type and structure of programs needed for the elementary, secondary, post-secondary, and adult levels.

Partnership Vocational Education Project

A number of efforts are currently being made to bridge the separation between educational levels. One such program is the Partnership Vocational Education Project at Central Michigan University, Mount Pleasant, Mich. Here emphasis is placed upon the articulation between levels of education as well as between disciplines. This program is structured much the same as the Pre-Tech Program, to be discussed later, but it has been fully planned and articulated, beginning in the high school and continuing through the community college, and the university. Students may progress through the educational levels with minimum loss in time at the beginning of each level. The high school program begins with a relatively broad approach to the study of American industry, with opportunities for exploration and attaining an understanding of vocational opportunities and the required preparation needed for various occupations. The high school program is aimed at accommodating three levels of students. Graduates from the first group—those who have ability and interest for college—are seen as recruits for teaching and for careers in the areas of technology and applied sciences. The intermediate level students are those who may want to enter the labor force upon graduation or enter the community college for the post-high-school technical training. The third level will accommodate students who are probably not capable of college success and who will enter the labor force on graduation. None of the students is locked into a level, and all may shift to another program if it meets their needs better.

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[1] Educational Implications of Technological Change, app. vol. IV, "Technology and the Human Economy." Studies prepared for the National Commission on Technology, Automation, and Economic Progress, pp. 67–68, 1966.

The community college program is designed to give the students special proficiency in his selected field. The proficiency preparation at this level is augmented with other subjects which are also correlated through interdisciplinary planning. Students completing the 2-year community college may elect to go into the workforce or transfer to the university.

The program at the university level continues the interdisciplinary, team planning approach.

The Cluster Concept

Articulation may also be accomplished through an interdisciplinary structure of the curriculum. Through organization of the common elements of diverse occupations, a core of information or cluster of conceptual relationships can be established.

The cluster concept as an approach to vocational education is developing wide interest. A research project based on the cluster concept is presently under way at the University of Maryland, College Park, Md. This project recognized the dilemma and controversy about whether vocational education should prepare highly skilled students for specific occupations or should provide broad programs of general training for a wide variety of occupations. The cluster concept program being developed at the university is aimed at a middle ground between these two points.

Two of the major objectives of the cluster program are:

1. To provide the student with greater flexibility in occupational choice patterns. This provides the student with an opportunity to obtain skills and knowledge necessary for job entry in several related occupations, and also an opportunity to appraise his own interests and abilities in relation to the several occupations in the cluster.

2. To provide the student with vocational competence that affords him a greater degree of mobility. The opportunity for mobility is seen as both geographic and on the job. The skills developed are seen as being both employable and transferrable. The student who has the opportunity to prepare in a cluster of occupations will probably be better prepared for technological change. Changes on the job will be expected rather than feared as in the past.

Within this program, the students are prepared to enter a family of occupations. While there is sacrifice in depth compared to specific job preparation, the students retain an element of final choice. The program also avoids the danger of closure if any one of the specific occupations within the family becomes obsolete or eliminated through technological advance, and allows a relatively easy adaptability as job requirements change.

Preengineering Technology

The Preengineering Technology Program, also known as the Richmond Plan or Pre-Tech Program, was initiated by the Richmond, Calif., High School District and Cogswell College, San Francisco, Calif. It was established as an interdisciplinary program oriented toward preparation as an engineering technician. The initial population selected for the program were students who, by criteria available, were capable and average, but were achieving at a rate lower than should be expected by their ability—a common and often neglected population found in most schools.

The contributing disciplines were selected for their relevancy to the preparation required of an engineering technician. An analysis of this occupation identified the need for persons who were well founded in basic science and mathematics and could manipulate the concepts of these fields mechanically. It was also found that effective communication was an essential element in the technician role. Hence, mathematics, science, English, and technical laboratory were selected as areas, and a teacher from each of the areas and a counselor constituted the teaching team. The team was assigned a common preparation period for planning curriculum units. Emphasis in planning was placed on developing maximum reinforcement of the disciplines through emphasizing their interrelatedness.

The curriculum objectives of the program are clearly defined in measurable terms. As a result, students not only know what they are doing, but more importantly, why they are learning a particular thing at a given time.

A functional objective of the program is to prepare and motivate students for continued education toward a career. The program establishes salable skills for each level of education, but is planned to be articulated and nonblocking.

One of the significant results of this project has been the demonstration of the effectiveness of the interdisciplinary process in program development. Presently there are approximately 40 schools in the San Francisco Bay Area with programs using the interdisciplinary process adapted to 12 different occupational goals.

Project FEAST

One of the more effective adaptations has been the program in commercial food services. This program, Food, Education, and Service Technology (Project FEAST), draws upon home economics, science, English, and mathematics as the discipline elements. The program was developed to test the adaptability of the Pre-Tech Program to other occupational fields or clusters. It was developed cooperatively by the Hotel and Restaurant Foundation of San Francisco City College, Pacific High School, San Leandro, Calif., and Oakland Technical High School, Oakland, Calif.

The occupational objective of Project FEAST was preparation for the rapidly growing hospitality and service industry. The program is designed to accommodate students with all ranges of ability. This program, like the Pre-Tech Program, is planned to establish salable skills at each transition level, and also to prepare for the next level of education. The project makes effective use of a strong industry-labor advisory committee. Through this committee, the program has been benefited in two important ways: through (1) the benefit of the members' experience for continued program improvement and (2) the opportunity to place students in work experience during their program, and job placement upon completion of their program.

A New Discipline

The Nova Schools, Fort Lauderdale, Fla., and the American Industries Project approach curriculum innovation from the point of view that American industry or technology represents a body of knowledge which can and should be formulated and structured as a discipline. The rationale for the Nova approach and the implications for vocational education have been reported as follows:

> In this scientific age, technology exerts a powerful force upon society. To some degree technology affects everyone every day. All of us are dependent upon the goods and services that modern technology makes possible. As a body of knowledge, technology is not the exclusive possession of engineers. A safety pin is just as important as the Apollo spacecraft. It all depends on what your need is.
>
> Without technology our lives would be vastly different. The potential of technology for good or evil is awesome. It is certainly important, perhaps vital, for all of us to be aware of the origins, principles, concepts, processes, and products of technology. To encourage maximum development of the potential of technology for good, renewed efforts should be made:
>
> 1. To develop a curriculum in technology for all levels of learning from the very early elementary grades onward.
>
> 2. To study technology as a new academic discipline designed with appropriate balance between theoretical understanding in a conceptual arrangement and the development of manual skills.
>
> 3. To give equal status to the discipline of technology in the school curriculum, on a par with the traditional disciplines.
>
> 4. To correlate the areas of science, mathematics, social studies, and language arts with the technology curriculum. For the development of attitudes and values relating to the responsible use of technical skills, there cannot be any clear delineation between disciplines.

Technical and Vocational Implications of the Nova Preemployment Program

1. Every Nova student will be required to elect one of the technical science courses each year he is enrolled.

2. A student will participate for a varying amount of time. The modular schedule at Nova gives each student about 25 percent unscheduled time. This time can be used for technical and vocational courses.

3. Each student will be enrolled in science, social studies, English, mathematics, and foreign language in addition to technical science. There is some flexibility in time in these courses. There will be units and activities in these disciplines which directly relate to the student's interest field.

4. Achievement in technical and vocational skills will be measured by competency rather than by time in class. The advisory committee will help determine competency levels.

5. Materials are being developed to a sophistication level which will allow each student to progress at his own best rate. He will have a choice of activities to reinforce his knowledge and skill development.

6. Teachers who are involved in the technical and skill development phases of the program will be vocationally certified. They will be teamed with other certified personnel for curriculum development and related material presentation. This teaming will provide needed inservice help for each team member.

7. All goals or objectives are stated behaviorally. Evaluation devices will emphasize visible behavorial changes.

8. Emphasis will be placed on the attitudes and habits which go with successful job performance which

should help the prospective worker understand how he fits within the economic and civic institutions of our country.

9. By teaching concepts and by employing the problem-solving techniques of instruction, the school will help the student cope with the changing labor market. An awareness of the concepts of the machinery and processes in his work world will prepare him for retraining when it becomes necessary. The worker's confidence in himself should also be strengthened through an understanding of the basic concepts of his field.

10. Every attempt will be made to offer instruction which is so closely identified with current industrial and business techniques, that the student will be prepared to enter the real world of work.

11. Nova students will be prepared and encouraged to continue their technical education at college. Laboratory facilities at Nova will available to the junior college students when necessary. Very close cooperation between schools is anticipated.

The American Industries Project, at Stout State University in Minnesota, assumes the same basic orientation as the Nova approach. That is, that American industry provides a body of knowledge which can be analyzed in terms of identifiable concepts.

This program views American industry from a global perspective as representing a body of knowledge from which content for the curriculum can be derived, and, secondly, that from the total body of content, organization into specific curriculum objectives can then be based upon the general objectives of that curriculum.

While the theoretical structure and body of knowledge are still in the process of development, three distinct levels have been identified and courses are now being developed. The broad objectives of the first level, to begin at the eighth grade, are to (1) develop a knowledge and understanding of the major concepts of industry and their relationships, and (2) develop the ability to solve simple problems related to industry. At the second level, the objectives are to (1) develop in-depth understanding of the concepts of industry and to refine the relationships among the concepts, and (2) expand the ability of recognizing and solving the complex problems of industry. The third level is concerned with the development of knowledge and problem solving skills within a concept area or cluster of concepts appropriate to the individual's interest and abilities.

Teacher Education

An inherent characteristic of the programs cited is a common concern for programs which meet both a social and individual function. They recognize that knowledge and technological devlopment depend on each other, and are accepted as good in the life and progress of man. Each of the programs has drawn heavily from the disciplines of psychology and sociology in developing the programs and has also relied, to a great extent, upon the natural curiosity and motivation of students.

Teacher training or retraining is a functional part of each project. The need for teacher reeducation in light of rapid change is becoming apparent. The need is especially notable when different disciplines are brought together in program development. Experience in interdisciplinary programs has demonstrated that teachers must develop a genuine understanding of the other disciplines involved for effective interdisciplinary teaching. It has also been demonstrated that teachers must learn to become more flexible in adapting and adjusting their teaching methods and timing to coordinate with the other disciplines. They must develop a freedom from defensiveness regarding their lack of knowledge in the other disciplines.

It is significant to note the emphasis which has been placed on eliminating the barrier between vocational and general education. In describing his role in an interdisciplinary program, an English teacher made this type of summary:

> Few teachers know or care what the teacher next door is doing if he is from another department. Most high school education is compartmentalized—not only watertight—but idea-tight. * * * Teachers widen their own knowledge by crossing subject lines * * * and students are motivated when they see that their teachers are interested in all of their subjects.[2]

One of the common mistakes of curriculum development and change is failure to anticipate the future professional staff needs as the programs move from the experimental phase into the implementation phase. In most innovative programs, development and implementation are carried out by the same staff. Too often, however, the innovation fails as the program is implemented beyond the original staff because teachers, counselors, and other professional staff expected to carry on the program are unfamiliar or vaguely familiar with the philosophy, concepts, and methods which underlie the program.

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[2] Curriculum Programs In Action: Report of a conference sponsored by San Francisco State College and University of Wisconsin. San Francisco, Calif., February 1967, p. 24.

In each of the foregoing projects the need for professional staff preparation is recognized and planned for as part of the development process of the specific program. While this is essential and necessary for the success of the specific programs, it fails to provide an adequate base for teacher education in general.

In recognition of the need for a more comprehensive approach in professional staff preparation the Improvement of Teaching Project at Mississippi State University, State College, Miss., has initiated a teacher education program to prepare and retrain teachers for vocational education. The program places emphasis on the preparation required for coordination and articulation between the levels of education. It recognizes the variety of teachers required and provides flexibility to meet this need through individualized programs of study for those in training.

The project aims at upgrading and retraining through planning new programs. As research indicates a need or provides evidence which supports a program or process, planning is initiated to develop the curriculum materials necessary for implementation. The professional staff preparation also provides for internships, faculty exchange between the high schools and junior college, and assistance for training currently employed teachers.

One of the techniques used in the program which appears to be effective in the improvement of teaching is the team planning concept. The team, representing several disciplines, plans programs or units of work which coordinate the disciplines. It appears that teachers involved in team planning develop a greater flexibility and are better able to adapt to changing conditions.

TRENDS, OBJECTIVES, AND ASSUMPTIONS

While there were marked differences among the projects in terms of content, organization, educational level of the program, type of population to be served, approach, and methods employed, there were also commonalities. Through conference and discussion the representatives identified what they felt were common elements of the programs and might be considered as indications of trends.

Some of the more significant trends and directions would appear to include:

1. Greater individualization of instruction.
2. More comprehensive programs in which the disciplines are brought into interaction to maximize reinforcement and to highlight the relatedness of the disciplines.
3. Programs which recognize that the separation of vocational and general education detracts from both and when they are brought together, they serve to improve and enhance each other.
4. Planning which accepts the fact that not all students learn in the same way, nor will they learn the same things under the same circumstances.
5. Program planning based upon the assumption that schools fail students rather than students fail school.
6. Programs which place greater responsibility upon the student for his own education and for making decisions.
7. More comprehensive programs to accommodate a greater variety of individual needs and differences.
8. Recognition that teacher training and retraining in line with specific objectives or conditions is an essential element when change is required.
9. Teachers are becoming managers of the learning environment rather than purveyors of information.
10. Systems are slowly beginning to reorganize to accommodate the learning process rather than the teaching function.
11. As education, like society, becomes more complex, the team strategy for planning becomes essential.
12. Curriculum designed and developed through an interdisciplinary approach is more likely to meet the needs and interests of students than that developed within the constraints of a single discipline.
13. Curriculum developed in terms of a total program in contrast to course development.
14. Recognition that education can no longer be planned within the confines of the school, but must coordinate with community resources and agencies.
15. Recognition that funds and time must be provided for program development, and programs must be planned and evaluated to reflect constant

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interest in maintaining maximum economic and educational efficiency.

16. Earlier introduction to the world of work and to the many opportunities which exist.

These trends appear to identify some of the objectives to be considered in planning programs with new directions. Such planning would call for and support:

1. A curriculum plan that embodies and stresses methods of inquiry, techniques of learning, and educational procedures that will maximize learning opportunities for students at all educational levels.
2. A flexible, varied program that recognizes the individualized selection of applied fields of knowledge and provides for guidance to realistic career choice involving local resources and institutional philosophy as the context for school learning experiences.
3. Emphasis in the design of integrated curriculum directed toward enabling the student to derive beneficial intellectual concept experiences, productive behavioral attitudes, and attendant psychomotor outcomes.
4. Identification of the goals of education in terms of specific student behavior in a developmental program.
5. The opportunity to identify specific objectives for education in terms of curriculum, personnel, and facilities.
6. Provisions that foster maximum teacher flexibility, innovation, and experimentation in the development of instructional procedures and instructional materials commensurate with expressed educational aims.

The trends identified exemplify methodology and techniques that are presently being tested in practice and are being examined for applicability on a larger scale. This attempt to utilize existing successful approaches may prove valuable in (1) fusing vocational and general education curricula and implementing a workable educational system that focuses on a continuous process of career development, and (2) providing for the optimum development and utilization of human resources in our changing society.

While it is accepted that occupational preparation leading to employment is fundamental to vocational education, it is also apparent that technological changes and Federal legislation have greatly expanded the base for selection of occupational preparation. It is generally agreed, as suggested in the preceding chapter, that vocational education must serve two general purposes: (1) To prepare persons to meet the demands for the labor market, and (2) to help develop human resources to their optimum potential.

In view of the expanded role, the frame of reference of vocational education should shift from job-centered training to that of employability which includes other educational characteristics essential for job attainment and career mobility.

For effective planning within the described framework, a number of assumptions must be made:

1. Vocational education is the right of everyone who desires and can profit by it, and it is the responsibility of the schools to provide for it within the curriculum.

This assumption precludes program limitations as they now exist in many instances, and establishes the need for a broader and more inclusive vocational program based upon individual needs and work opportunities. Such planning establishes the base for the schools to become responsible for the student in transition to the next level of education or to work.

2. Vocational education is a continuous process from early childhood throughout life.

The process can be roughly divided into four phases which prescribe themselves to general levels of education. The types of programs which are appropriate and can be planned for each level are:

a. Informational and orientational;
b. Orientational and exploratory;
c. Exploratory and preparational;
d. Upgrading and retraining.

The phases, of necessity, do and should overlap to accommodate individual needs at a given time.

3. Vocational education, like general education, is a responsibility of the total school and cannot be limited to a single discipline or department.

While administrative responsibility for vocational education may be centrally located, it is the responsibility of the administration to encourage all elements of the school to contribute to the vocational commitment.

4. Vocational education programs can be developed which serve as nonblocking career ladders, and they can be planned to be consonant with the goals of both general and vocational functions of education.

This will require vocational planning which articulates between the levels of education and provides maximum opportunity for the student to attain his desired and optimum development. Through such articulation, the transition of the student to the next educational level or to work will be more efficient and effective.

These assumptions establish vocational preparation as a total school reponsibility and eliminate the artificial barrier existing between vocational and general education. They establish the fact that vocational education cannot take place without sound general education, and general education does not exist when it does not include vocational education. Thus, education is required to assume responsibility for every student in the transition between educational levels and from education to work.

SUMMARY

As the need for more and better education has increased at a rapid rate, it has become essential to search for new and more effective means for education to meet the demand. As a result, the total educational system is engaged in a period of evaluation, research, and experimentation.

The role and importance of vocational education takes on new dimensions as the labor market demands change to require higher levels of preparation for employees, coupled with diminishing opportunities for the less well prepared. There is a growing recognition that far too many youths are leaving school inadequately prepared to enter the labor market and that the schools must assume the responsibility for the vocational preparation for a much larger portion of the school population than they are now accommodating. It is also generally recognized that as the role of vocational education is expanded to accommodate more students, new programs must be planned to meet new needs and new purposes.

In response to the need for change, many research and experimental studies related to vocational education have been initiated. While it is still too early for the results of these efforts to have significant impact on the curriculum, an attempt was made to assess the trends and directions which might be forthcoming. A group of educators representing programs or projects which are recognized as being innovative participated in a conference planned to identify commonalities which appeared to suggest trends or directions in vocational education.

The conference participants were in general agreement that (1) vocational preparation should be part of every student's education, (2) the dichotomy between general and vocational education is false and must be eliminated, (3) planning for vocational education must include all students and be a responsibility of the total school, (4) greater individualization of instruction and greater student responsibility for his own learning are essential to improving vocational eduaction, (5) teacher education and retraining are vital in implementing and maintaining new programs in the curriculum, and (6) constant program evaluation and development are essential for the educational curriculum to keep pace with individual and social needs.

PART III
RECOMMENDATIONS

The Advisory Council on Vocational Education was charged in section 12, Public Law 88–210, with the responsibility of making recommendations concerning the program and administration of vocational education, and legislative changes designed to improve the quality and quantity of vocational education, so that persons of all ages in all communities of the State—those in high school, those who have completed or discontinued their formal education and are preparing to enter the labor market, those who have already entered the labor market but need to upgrade their skills or learn new ones, and those with special educational handicaps—will have ready access to vocational training or retraining which is of high quality, which is realistic in the light of actual or anticipated opportunities for gainful employment, and which is suited to their needs, interests, and ability to benefit from such training.[1]

The council was well aware that the Federal grants authorized in Public Law 88–210 were intended to assist States "to maintain, extend, and improve existing programs of vocational education, to develop new programs of vocational education, and to provide part-time employment for youths who need the earning from such employment to continue their vocational training on a full-time basis. * * *"[2]

Accordingly the council has presented in part I of its report a comprehensive review of vocational education in the United States conducted under the provisions of the various vocational education acts. In part II, the council has elaborated upon its findings in evaluative terms to prepare an appropriate base upon which to present its recommendations to the Secretary of Health, Education, and Welfare, the President, and the Congress.

Through the review and evaluation of vocational education, as redirected by the Vocational Education Act of 1963, many accomplishments have been identified. While much progress can be claimed, there still remain limitations and impediments which must be overcome to fully meet the intent and purposes of the act. A number of the critical social issues upon which the Panel based its recommendations have greatly intensified and new ones have arisen. Greater efforts must be made by all governmental agencies at all levels to provide the talent and resources essential to the solution of these problems. Every effort must be made by those responsible for program administration to continually review and evaluate their operations to insure maximum efficiency and effectiveness.

The major recommendations presented here reflect the judgment of the advisory council as those which will serve in helping to meet the vocational needs of the Nation, and at the same time improve the efficiency and effectiveness in their administration.

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[1] Declaration of Purpose, Public Law 88–210, 88th Cong., Dec. 18, 1963.

[2] Ibid.

Chapter 13

Legislative Recommendations

1. **IT IS RECOMMENDED,** ***That all Federal vocational education acts administered by the Office of Education be combined into one act.***

This new act should incorporate the desirable features of the Smith-Hughes, George-Barden Acts, their amendments, and the Vocational Education Act of 1963. Currently, there are three primary vocational education acts, each with specific amendments and titles, which provide separate appropriations and which require separate administrative accounting, reporting, and matching.

Enactment of a single act for vocational education would:

- Greatly simplify administration of vocational education at local, State, and Federal levels;
- Enable Congress to review the results of program progress under one legislative authority;
- Assure clearer understanding of the total objectives of vocational education legislation;
- Enable States to modernize their administration of vocational education through organization by function and purpose rather than by legislative units proscribed in prior acts.

2. **IT IS RECOMMENDED,** ***That a Department of Education and Manpower Development be established at Cabinet level.***

The department should have responsibility for all Federal programs of public education including vocational and technical education. It would serve as a coordinating and central funding agency for the occupational education and training of youth and adults and for remedial work and training programs.

Each of these programs has its own target population with separate eligibility requirements. Some attempt to reach the unemployed and underemployed; others, the hard core disadvantaged. Still others are aimed at the general population, and yet, others are designed to serve ethnic groups like the American Indians or the Spanish-Americans. A variety of program sponsors and administrators operate these programs and provide related services. Most of them are public institutions, but do include private establishments.

No single Federal agency is currently assigned to coordinate these broad efforts of manpower training and education. Occupational programs requiring higher levels of educational preparation, including most of the professional programs, are now coordinated through the U.S. Office of Education. A similar pattern is needed for all federally supported education and training.

Through a central agency, such programs could be supported and administered more rationally with efficient administrative procedures. A single department responsible for Federal programs of public education and training and other manpower development programs could control unnecessary proliferation of programs and avoid duplication of efforts.

3. **IT IS RECOMMENDED,** ***That funds and permanent authority be provided for the Commissioner of Education to make grants or contracts to State boards and with approval of the State board to local educational agencies and to other public or nonprofit private agencies, organizations, or institutions for planning, development, and operation of exemplary and innovative programs of occupational preparation.***

The effectiveness of a number of new methods, techniques, and services has been verified in research and experimental studies. Indicators suggest their significant value in improving programs of occupational education. In order to ensure that all youth and adults especially those with disadvantages have adequate and appropriate opportunities to prepare for satisfactory employment, vocational education programs must incorporate such new designs and services as they become available.

These exemplary programs of occupational education should include the following provisions which are not offered widely in existing vocational education programs:

Exploratory occupational education to provide practical and educational experiences essential to understanding the demands and complexities of our modern society and opportunities in the constantly changing world of work;

Programs designed to acquaint students with employment opportunities and to teach skill and knowledge required in one or more industries or families of occupations certified by the U.S. Department of Labor as offering expanding opportunities for employment;

Programs or projects to provide students with educational experience through part-time work which will assist in their maximum development and which will help link school and employment;

Guidance and counseling to assure that all students' interests and capabilities are developed in relation to their career objectives and to ease the transition from school to work by assisting them in initial job placement;

Improvement of curricula to stimulate broad-scale innovative changes to provide more realistic vocational education programs for youth and adults at all skill levels.

This recommendation would provide resources for implementing the desirable results, methods, and new techniques resulting from research studies, demonstration, and experimental efforts.

These new programs would enable educators, the public, and other concerned State and local officials to observe and evaluate, in a typical school setting within their own State, the practical application of improved program design and operation. Such new and innovative vocational education demonstration programs would serve as models for improving existing vocational education. They would also serve to reduce the timelag in implementing the results of research.

4. **IT IS RECOMMENDED,** ***That funds and permanent authority be provided to develop and operate new and expanded vocational educational programs and services specifically designed for persons who have academic, social, economic, or other handicaps.***

One of the critical problems facing the Nation today is how to help the academically, socially, and economically disadvantaged. Such persons tend to concentrate in the inner city of the large metropolitan areas. However, this problem is not exclusive to the large cities, nor can it be divorced from the economically depressed rural areas. Contributing to the problem of the inner city are large numbers of migrants from rural regions who are ill-equipped to meet the demands of the metropolitan labor market.

State and local resources have not adequately provided for the occupational preparation of residents of the urban centers. Programs of high-quality vocational education in these cities would provide opportunities for occupational preparation for the largest, unserved segment of our population.

These programs, funded on a 90 Federal/10 State-level (in kind or cash) matching basis, should meet the occupational preparation needs of socially, culturally, and economically disadvantaged youth and adult residents of slums and ghettos.

While emergency measures to treat the problem are necessary, efforts are also needed to build permanent solutions to the problem within the existing educational and social agencies. Knowledge and skill within the existing public vocational education agencies, and other cooperating agencies, can provide for a combination of services concerned not only with the work skills of high school and out-of-school youth and adults, but also with the employability of such persons. Such services include counseling, prevocational experiences, motivation, mental, physical, and social rehabilitation, remedial education, work skills, technical knowledge, and placement and followup.

Priority of need and emphasis will consider such factors as the current availability of services, population density, conditions of housing, racial balance, income levels, labor market needs, and the availability of transportation to employment opportunities.

5. **IT IS RECOMMENDED,** ***That the act provide permanent authority for work-study and include work-study and work experience programs in the secondary schools and those at the post-secondary levels related to vocational and technical education.***

This approach would permit maximum flexibility in making all work experience programs an integral part of the total school program for all students who need or can profit from them. Students could be placed in work stations related to their career objectives and curricula.

Work-study programs for disadvantaged students who need financial aid to continue their education at the secondary and post-secondary levels should be administered and operated by the public schools. Rates of compensation should be set by the Commissioner and should not be in competition with rates paid under other Federal work-study programs.

The current authorization for vocational work-study programs expires in fiscal year 1968. This recommendation would combine the provisions of vocational work-study and other federally funded work-study programs into one program administered by the public schools.

Work experience has desirable occupational education values in its own right; when coordinated and planned as a part of a total educational program, work experience and classroom education supplement each other and additional values are achieved.

Because of the proven success of the part-time cooperative program, work experience and work-study programs should be modeled after it as rapidly as coordinators can be trained. To provide incentive for this change, reimbursement for programs with coordinators should be on a 90–10 basis, while those without should not be reimbursed at more than 75 percent.

A person enrolled in this program should be identified as a student or trainee as contrasted with a regular employee.

6. **IT IS RECOMMENDED,** ***That funds and permanent authority be provided for the Commissioner to make grants to State boards of vocational education and, with the approval of the State board, to colleges and universities, and/or to public educational agencies to construct facilities and operate residential vocational schools.***

Section 14 of the Vocational Education Act of 1963 authorizes funds for construction and operation of residential vocational schools. This authorization will expire with the fiscal year ending June 30, 1968. Since Congress never appropriated the funds authorized by the act, the desirability and feasibility of residential schools could not be demonstrated.

This recommendation would provide Federal funding on a 90–10 cost-or-kind matching basis for initial planning, architectural fees, site acquisitions, construction, equipping, and operation of facilities.

Vocational residential schools would be established for the purpose of extending vocational education opportunities to all youth, and would be readily accessible to those who, because of geographic problems, socioeconomic problems, or other reasons, cannot otherwise participate in or profit from the regular vocational programs.

All States and Territories would be eligible to submit projects for residential schools based on their needs for such facilities. The need is especially critical in sparsely populated rural and urban disadvantaged areas.

7. **IT IS RECOMMENDED,** ***That the act provide for at least 25 percent of the funds appropriated for allocation to the States to be used for the intent set forth in purpose (2), post-secondary schools, and (3), adult programs, of the Vocational Education Act of 1963.***

This significant legislative change would direct greater emphasis to post-secondary and adult vocational and technical education programs. The recommended change would remove the present requirement for expending at least 33⅓ percent of the allotment for purposes (2) and (5), post-secondary vocational and technical education, and construction programs, for fiscal year 1968, and also the 25 percent for the same purposes thereafter. As changed it would establish a floor of at least 25 percent of the allotment directed to post-secondary and adult vocational and technical education program planning, funding, and operation. Programs in junior and community colleges and other institutions would be strenghtened to provide youth and adults with technical and skill training required for entrance and advancement in the Nation's labor force.

8. **IT IS RECOMMENDED,** ***That the act include vocational homemaking education in a separate section of the act with specific funding authorization.***

Families are the most important resource of the Nation. Today the central focus of home economics continues to be the well-being of the family and the quality, enrichment, and stability of family life. The major emphasis is human development. The need for home economics is greater today than during any other period in the history of our Nation. Homemaking education must continue to be prominent as it makes significant contribution to family life and society in the United States in light of changes taking place which affect families in disadvantaged urban and rural areas.

Both homemaking education and education for gainful employment draw on a common body of knowledge in home economics and there is a direct interrelationship between the two types of education. Homemaking education provides the prevocational training and contributes to the development of employability skills required in gainful employment thus contributing directly to the preparation of individuals for the dual role of homemaker and wage earner.

New content emphases are evolving in homemaking education for youth and adults designed to encompass the whole area of home and family life to help youth and adults to function effectively as family members. Some important emphases include understanding of child, family, and human development, management of personal and family resources, personal and family relationships, and feeding, clothing and housing family members, and development of personal qualities related to employability. Low socioeconomic and migrant families, urban and rural, need help with the use of credit, consumer buying, safety, care of children, sanitation, nutrition, health, education, recreation, and creation of a better living situation.

The need for homemaking education is highlighted by the following factors: The large number of employed homemakers who have families (three out of 10 of all married, 2½ million with children under 6, four out of 10 mothers with school-age children); about two-thirds of all women and more than one-third of all men are married by the time they are 21 years of age; almost 40 percent of our population now falls in the age group under 19; girls under 17 years of age account for 50,000 annual out-of-wedlock births; geographic mobility and increasing urbanization of the Nation's population; more than 9 million families live in substandard housing.

Vocational home economics to prepare individuals for gainful employment in occupations requiring home economics knowledge and skills is provided for in other sections of the 1963 act and is not included in this recommendation.

9. IT IS RECOMMENDED, *That the act provide for the distribution of funds to the States on bases which will encourage increased enrollment, attendance, and improved performance.*

The allocation system should be designed to provide incentives and to reward those States making the greatest efforts, both in quantity and quality of vocational education. The Commissioner of Education should study and develop formulae and criteria and recommend to Congress legislative changes to implement this objective. Such factors as proportion of population enrolled, average daily attendance or membership, proportion of per capita income devoted to vocational education, and training related placement should be considered. Consideration should be given to exempting from matching requirements that portion of any State's allotment which accrues from the per capita equalization factor. The States should allocate funds to local districts on similar bases. Funds from any State's allocation not matched and spent by that State should be available to the Commissioner for reallocation on an incentive basis or for allocation to meet critical vocational education problems of national magnitude.

10. IT IS RECOMMENDED, *That the act permit matching of the Federal allotment on a statewide basis.*

Currently VEA 1963 requires that States must match Federal allotments by purpose except for facility construction which must be matched on a project basis, and for work-study which, after 1968 requires matching on a 25–75 basis. Under prior but existing laws they must match by program. Since most States acquire most or all of their matching funds from local sources, the effect of the ruling is to require poor sections of a State to meet as great a proportion of construction and operating costs as wealthy sections of the State. Innovation is discouraged for programs in newer occupational areas, because matching tends to remain unchanged regardless of the need for new or innovative programs. States should be encouraged to establish various matching requirements within their territories as a means of aiding their economically disadvantaged areas and for stimulating improvement, expansion, and innovation. Through elimination of the requirement for matching by program and by purpose, the States could more readily adapt their funding procedures to local and national needs.

11. IT IS RECOMMENDED, *That provision be made for States to receive allotments earlier in the calendar year and expenditure of funds be authorized through the succeeding year.*

Many school boards find it impossible to begin or maintain programs unless funds are available. The severe shortage of professional personnel, and the need for systematic planning and initiation of new programs require early employment and early decisions, often months in advance of the school year.

If implemented, this recommendation would permit school boards to make earlier commitments. Efficiency would be greatly increased through longer and more careful planning.

a. Presently allotments are often made too late for States to prepare specific budgets.

b. A fiscal year is principally an accounting convenience and does not recognize the fact that activities bridge over fiscal years, and also start and stop at any time.

c. It is not realistic to criticize apparent failures in achieving congressional intent when allotment determinations are made too late for programs to be planned and included within the school program.

12. IT IS RECOMMENDED, ***That the act provide that salaries and expenses needed for the administration of vocational and technical education be included in the annual appropriation for this act.***

This recommendation would permit the administrative needs of vocational and technical education to be equated with the number and types of funded programs.

The vocational staff at the Federal level has not been increased in relationship to the growth in magnitude and complexity of the program. As a result, there has been a serious lack in long-range planning, and in planning programs to meet certain critical issues, such as programs for persons with special needs, the large city and rural problems, and identification and planning for the new and emerging occupations.

Leadership planning and technical assistance from the national level is essential to promoting maximum effectiveness for vocational education. The staff must be adequate to provide continuous planning and evaluation to assist the States in providing high quality vocational programs which meet the needs of the States and also reflect the national purposes to be served. The implementation of this recommendation would also provide technical assistance to the States to help implement innovative practices resulting from research.

13. IT IS RECOMMENDED, ***That provisions for developing a State plan in the act provide that a State shall, through its designated State board for vocational education:***

a. **Submit for approval a properly executed legal contract to the Commissioner of Education on such forms and in such detail as the Commissioner deems necessary to assure compliance with the provisions of the act and regulations;**

b. **Submit a 5-year projected plan for administering and operating programs of vocational and technical education. An annual updating of the plan to reflect changes and modifications contemplated would be submitted on or before the beginning of each fiscal year.**

This recommendation would eliminate the unrealistic State plan now required and provide a legal agreement between the Federal and State government and a 5-year projected plan for administering and operating programs of vocational and technical education.

The 5-year projected plan, with provisions for annual revision, would become a true planning document. The projected plan would be developed through cooperative planning between Federal and State vocational agencies. This would help insure that national, regional, State, and local vocational and technical education goals and needs be related as closely as possible.

As part of his review of State plans, the Commissioner should make suggestions where improvements can be made.

14. IT IS RECOMMENDED, ***That the act recognize the need and provide support for professional and paraprofessional staff recruitment, preparation, and upgrading at all levels, including leadership, administration, teacher education, and counseling and guidance on a State, regional, and national basis.***

Vocational education is the only field of education supported by Federal funds which does not have substantial sums provided for teacher education. States have always been allowed to use part of their operating funds for this purpose. Too often, however, little or nothing has been done, either on a preservice or inservice basis.

The rapid establishment of manpower development programs and the continued expansion of vocational education have created a severe shortage of leadership, administrative, and teaching personnel.

In recognition of the new and emerging occupations, the growing importance of work experience in education, the need for closer liaison and cooperation between industry and education, the rapid change in the skills needed within specific occupations, and the need for continuous curriculum revision and development, provisions are needed which will permit preservice and inservice programs for preparation and upgrading of professional and paraprofessional personnel. Paraprofessionals include teaching aides, laboratory assistants, and other subprofessional personnel utilized to extend and improve the services of the professional staff. The provision should include fellowships, leaves, internships, and exchange of personnel between industry and education, and between Federal and State offices.

House Resolution 8525, 87th Congress, incorporates many desirable features of a teacher training program. In addition, provisions should be made for:

a. Regional teacher training (many States are too small to offer economical programs, and teachers for unusual programs could probably be trained in one school for the entire country).

b. Full payment of costs of new or expanded teacher education programs (on the National Defense Education Act Institute model) for the first 5 years, followed by gradual sharing of costs by the Federal and State Governments and by the employing school.

c. Encouragement of 12-month employment of vocational instructors with regularly scheduled time for curriculum development and for personal development through return to employment or to school (including schools operated by industry).

d. Payment to the States of 75 percent of teacher education funds, with the remainder disbursed by the Commissioner in grants and contracts for special programs for this purpose.

15. IT IS RECOMMENDED, ***That 25 percent of the funds appropriated for title IV of the Higher Education Act of 1965 be set aside for opportunity grants for students interested in entering post-secondary technical and vocational programs.***

It is the purpose of this recommendation to provide the benefits of post-secondary vocational and technical education to qualified high school graduates. Opportunity grants would be available to students who would otherwise terminate their education upon graduation from high school because of lack of financial resources.

It is believed that such a program would provide an incentive for potential dropouts to complete their high school program and to continue their vocational preparation in post-secondary institutions.

Title IV of the Higher Education Act of 1965 provides assistance to students who lack the financial resources to continue their education. Only a small portion of the funds appropriated for title IV has been used to aid students in post-secondary institutions who are interested in pursuing a technical or vocational program. Because of the disparity in the number of those who enter and those who complete higher education programs, it is obvious that many of them would profit from should be encouraged to enter technical and vocational programs in post-secondary institutions.

16. IT IS RECOMMENDED, ***That funds be authorized for pilot projects to study the feasibility of reimbursement to employers for unusual costs of supervision, training, and instruction of part-time cooperative students in publicly supported education.***

Part-time cooperative education requires the student to attend school half-time and be employed in a significant and related job half-time under the supervision and coordination of the school. In some cases the costs to the employer for supervision and on-the-job instruction may be substantial. The proposed reimbursement would partially offset these extra costs, and would encourage employers to continue students during temporary production slowdowns. It would also encourage more employers to participate in the program. Unusual training costs should include only costs incurred because the student trainee is not able to perform on the job in the manner the employer expects of his regular employees. If a student's job were terminated during the academic year, no reimbursement would be made to the employer for that student.

17. IT IS RECOMMENDED, ***That 10 percent of the sums appropriated for the purposes listed in section 4(a) of VEA 1963 shall be used by the Commissioner of Education for the following purposes:***

a. **For grants or contracts to colleges and universities and other public or nonprofit private agencies and institutions to pay part of the cost of research and dissemination of research results in vocational and technical education;**

b. **For grants or contracts approved by the operating bureau for evaluation, demonstration, and experimental programs in vocational and technical education and for dissemination of results;**

c. **For grants to States for paying part of the cost of State research coordinating units, State research, evaluation, demonstration, and experimental programs in vocational and technical education and dissemination of results.**

Funds available under section 4(c) of the Vocational Education Act of 1963 have produced only partial results in providing new information and directions immediately useful in implementing programs of vocational and technical education impacting on national issues and problems in occupational training. Through this recommendation, funds would be allocated by the Commissioner for specific purposes impacting on the critical needs of vocational and technical education.

Research in vocational and technical education and the dissemination of its results would be administered by established research divisions in the Office of Education in cooperation with the operating division.

Evaluation, demonstration, and experimental projects and the dissemination of their results would be administered through the operating bureau responsible for programs of vocational and technical education. This procedure would provide a realistic approach to critical national administrative and operational problems and a closer link between the operating bureau and State programs in implementation of research techniques and curricular design and the evaluation of results.

Grants to States for approved programs would provide for State research coordinating units, State and local research, demonstration, dissemination, and evaluation essential in the immediate and long-range program planning, implementing, and operating of vocational and technical education to meet the requirements of all youth and adults to enter and advance in the Nation's labor force.

18. IT IS RECOMMENDED, ***That the act provide funds and require the Office of Education to be responsible for collecting data and preparing an annual descriptive and analytical report on vocational education to be submitted to the President and Congress.***

The Office of Education would be responsible for establishing procedures to evaluate and collect data concerning vocational students, benefits of program to students, future vocational education needs, placement, followup, etc. Funds should be authorized to employ technical specialists, forecasters, consultants, and to offset a portion of the excess cost to State and local agencies in providing such data.

Data would be collected for nonreimbursable as well as reimbursable vocational education programs.

The need for this information is obvious. Virtually none is being collected now. Having the local schools responsible for collecting it should improve program planning at the local level. Reporting should be on the basis of occupations or clusters of occupations rather than by traditional vocational subject areas. The data collected should be evaluated and compared with other national inputs.

The annual report to be submitted by the Secretary of Health, Education, and Welfare would include evaluative and descriptive information on vocational education in relationship to the intents and purposes of the Vocational Education Act. The report would keep Congress informed on the progress being made under the act and would help determined weaknesses and gaps which need attention.

19. IT IS RECOMMENDED, ***That the act provide that each State conduct a periodic statewide review and evaluation of its vocational education program.***

This evaluation should be conducted no later than the year previous to the required national evaluation, and results should be submitted to the Advisory Council on Vocational Education responsible for the national evaluation. Minimum criteria for the statewide evaluation should be specified by the USOE, but States should be encouraged to go beyond the minimum requirements. The State evaluation should be conducted by persons representing business, industry, education, and the public.

The paucity of hard data for our evaluation was great, but even worse was the paucity of sound value judgments about vocational education. Required State evaluations preceding the national evaluation should provide better hard data and better value judgments. As nearly as we can determine, only a very few States have conducted a formal evaluation of their programs since 1917.

20. IT IS RECOMMENDED, ***That the act include within the definition of vocational education "prevocational" education and "employability skills."***

The present definition in VEA 1963, section 8.1, would be changed to read: "The term 'vocational educational education' means vocational or technical training, [or] *and* retraining, and *programs that include prevocational* and *employability skills* which [is] *are* given in schools or classes (including field or laboratory work incidental thereto) under public supervision or control or under contract with a State board or local educational agency, and [is] *are* conducted as part of a program designed to [fit] *prepare or improve* the *employability* of individuals for gainful employment as semiskilled or skilled workers, or technicians. [in recognized occupations * * *.]"

The occupational skills for certain types of employment often cannot be taught in a particular school or community because of such factors as lack of suitable equipment or instructors. In other fields the time needed to teach the required occupational skill is so short that establishment of a formal program is not desirable. However, in many situations and for particular individuals it is desirable that they learn skills which will enable them to seek work, apply for work, develop work habits and attitudes, and adjust to a work environment.

There is also need for programs which provide informational and exploratory experience to enable the students, both male and female, to assess their interests and abilities in relationship to the variety of occupational programs and opportunities available in one or more industries or families of occupations certified by the U.S. Department of Labor as offering expanding vocational opportunities.

21. IT IS RECOMMENDED, ***That section 4(a) of the Vocational Education Act of 1963 be changed to delete the word "area" and that section 8.2 be changed to read: "The term vocational education facilities refers to * * *."***

The term "area vocational education schools" has not been consistently interpreted in the administration of the act. This change in wording would clarify but not change the types of facilities authorized in section 8.2.

22. IT IS RECOMMENDED, ***That the definition of vocational education in the act be expanded to include the responsibility of education for initial job placement and followup for persons who:***

***a.* Have completed or are about to complete a program of education;**

***b.* Require part-time employment to remain in school;**

***c.* Need work experience which is an integral part of an educational program.**

This does not imply that placement should be divorced from the Employment Service, but it is essential that the placement service be housed in the school, in close contact with students, teachers, counselors, and administrators. Except in very small schools, this should be a full-time service.

Research indicates very clearly that vocational schools which have accepted responsibility for initial job placement of their students are far more successful than comparable schools which have not accepted this responsibility. Apparently two important factors operate: the schools which place students soon stop preparing students for nonexistent jobs, and the feedback from employers and graduates makes them quickly aware of deficiencies in their training programs.

Responsibility for followup of the students after they have been placed further tends to insure that the schools will continually evaluate their vocational programs and utilize the information to upgrade the program.

23. IT IS RECOMMENDED, ***That in order to meet current needs, authorization levels for administering and operating programs of vocational and technical education under the act be established as follows:***

I. Grants to States and Grants Authorized by the Commissioner of Education—$500 million. (Students served—8 million.)
  A. Grants to States—($437,500,000) (50–50).
  B. Grants by Commissioner—($62,500,000) (100)
II. Work-Study Program—$350 million (90–10). (Students served—575,000.)
III. Exemplary and Innovative Programs: General and Disadvantaged Population—$200 million (100). (Students served—175,000.)
IV. Residential Vocational Schools (50)—$200 million (90–10). (Students served—25,000.)
V. Programs for the Socially, Economically, and Culturally Disadvantaged—$300 million (90–10). (Students served—175,000.)
VI. Vocational Homemaking—$15 million (50–50). (Students served—2 million.)
  Total authorization—$1,565 million.
  Total students served—10,950,000 including 2 million in home economics.

(Supporting data follows.)

I. Grants to States and Grants Authorized by the Commissioner of Education—$500 million

A. *Grants to States*

Programs of vocational and technical education for wage earning occupations were provided for 14.7 percent of the students enrolled in the Nation's secondary schools and approximately 3.5 percent of the adults in the Nation's work force in fiscal year 1966. State and local matching of Federal funds in fiscal year 1966 was at a $2.65 to $1 ratio. The per-student expenditure of Federal funds in all programs averaged $38.52.

Based on projections from all States, an enrollment of 8 million will be served in 1969 and 14 million by 1975. According to these projections, approximately 35 percent of the secondary enrollment will be served with entry level occupational training and approximately 10 percent of the Nation's work force with entry, refresher, or extension-type training.

Funding Rationale. Based on present actual Federal support for students enrolled in all programs of vocational and technical education, a minimal level of

$500 million would be required to reach the projected enrollment of 8 million youth and adults in fiscal year 1969.

B. Grants Authorized by the Commissioner of Education

1. *Research*

Based on the experience of business, industry, and government programs, a minimum of 10 percent of the total program expenditures should be allotted to research, experimental, and related programs. The present authorization under Public Law 88–210, the Vocational Education Act of 1963, provides for 10 percent of the funds appropriated to be reserved for grants by the Commissioner under provisions of section 4(c) of the act.

This recommendation provides for 10 percent or $50 million of the sums appropriated for the purposes of this section to be used by the Commissioner for grants or contracts for research, evaluation, demonstration, and experimental programs in vocational and technical education.

Based on needs at the Federal and State levels, appropriations would be used by the Commissioner as follows:

> For grants or contracts to colleges and universities and other public or nonprofit agencies and institutions to pay part of the cost of research in vocational and technical education and the dissemination of research findings.
>
> For grants or contracts approved by the operating bureau for evaluation, demonstration, and experimental programs in vocational and technical education and for dissemination of results.
>
> For grants to States to pay part of the cost of State research, research coordinating units, evaluation, demonstration, and experimental programs in vocational and technical education, and dissemination of results.

2. *Teacher Education and Professional Staff Development*

The rapid expansion of manpower training programs has caused a shortage of qualified teaching and administrative personnel. While, for the most part, teacher education and professional development is a function of the State, in many cases the number of personnel required is not large enough to make it economically feasible for each State to conduct a program. Therefore, it is recommended that 25 percent of the funds authorized for this purpose should be disbursed by the Commissioner for special, regional, and national programs.

The Federal appropriation for section I would be used approximately for:

A. Grants to States for:	
1. Maintenance and expansion of operating programs	$250,000,000
2. Construction	100,000,000
3. Ancillary services	50,000,000
4. Teacher education and professional development	37,500,000
Subtotal A (50–50)	437,500,000
B. Grants authorized by the Commissioner for:	
1. Research, evaluation, development, demonstration, experimental programs, and dissemination (10 percent)	50,000,000
2. Teacher education and professional staff development (25 percent)	12,500,000
Subtotal B	62,500,000
Total I	500,000,000

II. Work-Study Program—$350 million (90–10)

Work-study programs provide the financial means and incentives for economically disadvantaged students aged 14–21 to continue and finish their high school education. Objectives of the program are to reduce the high school dropout rate, encourage and enable high school dropouts to return to school, provide disadvantaged youth with an orientation to the world of work and a balanced learning experience achieved only when the pursuit of education is coupled with a job situation.

In 1964 the Office of Economic Opportunity estimated a universe of 2.2 million poor high school students, aged 14–21. The size of the universe is not expected to change at least through 1973.

This program proposal amounts to a continuation and expansion of vocational education Work-Study Programs (Vocational Education Act of 1963), not funded for fiscal year 1968. The ultimate is to provide work-study opportunities for all needy secondary and post-secondary level students, and for other students who can profit by such experience.

Funding Rationale. At an estimated unit cost of $609, of which $510 would accrue to the student and the remainder used for administration, supervision, and program costs, an estimated 25 percent of the 2.2 million poor high school youths could be served, or 575,000 youths.

Average earnings per enrollee	[1] $510
Administrative costs	30
Supervision costs	59
Program costs (transportation, work tools)	10
Total	609

[1] Calculated at $1.60 per hour plus $0.10 fringe benefits for 300 hours work in a 36-week period as an average.

III. Exemplary and Innovative Programs: General and and Disadvantaged Population—$200 million (100)

General Population

The secondary school program has traditionally been academically oriented toward preparation of students to enter institutions of higher education. Approximately 80 percent of students currently enrolled in elementary and secondary schools will not complete a 4-year college program and earn a degree. More than a million students a year do not complete high school. The public schools must be more responsible to the needs of all students—their aspirations and goals, and their role in the world of work.

This proposal contemplates support of innovative and exemplary projects in all States and Territories to provide realistic model programs for strengthening and improving vocational and technical education at all levels. Programs include exploratory projects in elementary and junior high schools to provide broad understanding of the world of work and career choices and of their ultimate role in society. Work experience programs help students better understand and appreciate job requirements of business and industry and the need for academic and occupational training to enter and advance in the work force.

New and modified curricula are being developed to meet the needs of students at all levels who enter directly into the labor force or continue their education at the post-secondary or college level. Placement and followup programs would assist students in their transition from school to the world of work or in continuing their education. Followup data would provide the feedback from students, business and industry necessary to strengthen and improve programs of vocational and technical education.

Disadvantaged Population

By 1970, approximately 45 percent of the increase in the Nation's labor force will be youth in the 14–24 age bracket. With the concentration of population in the larger cities and the migration of disadvantaged youth from rural to metropolitan centers, many youth and adults are finding initial employment and advancement in the labor force a critical problem. The unemployment rate of minority groups, school dropouts, and other problems of the disadvantaged have created major problems in both urban and rural communities. The low educational and economic level, employment practices, housing, and family relationships all contribute to the problems of the disadvantaged in our society.

Little research or factual information is available to support programs aimed at solving one of our most serious problems, the Nation's disadvantaged population. While efforts are underway in several Federal programs to correct the problem of the currently identified population, no long-range potential program has been undertaken to impact on the causes and prevention through the public school system.

The public school is the only institution in our society that touches the life of every learner. Innovative programs to serve as models for improving the total elementary and secondary program in preventing recurring problems of the disadvantaged offer hope for the future. Programs must be developed to reach the school dropout and assist in his reorientation to his role as a contributing member of society.

Major emphasis would be placed on preventive programs to keep the disadvantaged student in school until he is prepared to enter the labor force at a level commensurate with his ability and aspiration.

The following are examples of projects which would be developed and supported:

- Occupational training consisting of a combination of a modified or upgraded academic curriculum and occupational programs that provides students a dual opportunity for achievement in acquiring basic education skills and preparation for employment. Basic education, remedial instruction, and the academic curriculum to be flexible in all subject matter and taught on the achievement level of the student. The occupational training phase to consist of classroom instruction combined with shop training and/or on-the-job training on a level adapted to the interests, aptitudes, and abilities of individual students.
- Training for a family of occupations in a single program. Teachers attempt to develop skills in one job in a cluster before introducing the student to training in a related occupation. Thus saleable skills can be developed early against the possible early withdrawal of the student.
- Special programs with a range of occupational choice designed for dropouts and potential dropouts. Emphasis placed on intensive guidance and counseling, half-day study, half-day work program; special study laboratories available for the students with programmed instructions, literature, and other materials

dealing specifically with their areas of interest. Specialized staff available to prepare instructional material designed to meet the specific needs of the student.

- Sheltered workshops to provide vocational training for the physically and mentally handicapped. Occupational instruction provided on a full-time basis plus preparation of students for more satisfying personal and family living—stress is on development of appropriate work habits and attitudes and the development of elementary job skills which lead to employment.
- Programs of remedial education for upgrading students for entry into regular vocational high schools or preparation for some entry job if they leave school.

IV. Residential Vocational Schools—$200 Million (90–10)

Existing facilities are totally inadequate to provide needed vocational training for the hard core disadvantaged youth. Vocational residential schools recommended here hold promise for the 1 million dropouts each year. These schools would be established for the purpose of extending vocational education opportunities to all youth and would be readily accessible to those who, because of geographic location, socioeconomic problems, or other reasons, could not otherwise participate in or profit from the regular school vocational programs.

Funding Rationale. Funds requested in this proposal will provide for the planning, architectural and engineering services, construction, and operation of 50 schools providing accommodations for 25,000 students. Cost considerations include:

Planing, including A & E services	$ 500, 000
Construction base	2, 500, 000
Annual operating cost	1, 000, 000
Total	4, 000, 000

Capacity per school: Approximately 500 students.

To provide 50 schools, one in each State, would require $200 million.

V. Programs for the Socially, Economically, and Culturally Disadvantaged—$300 Million (90–10)

While programs of vocational and technical education have grown rapidly since the passage of the 1963 act, critical problems and gaps still exist in programs meeting the occupational needs of the hard core disadvantaged.

- The unemployment rate among the 16- to 19-year-old age group is 11 percent (three times the overall rate) and represents one-third of all the unemployment in the country.
- The unemployment rate among Negroes and other minority group members is nearly twice the overall unemployment rate.
- More than 1 million students drop out of school each year.
- The unemployment rate for dropouts is 50 percent greater than for high school graduates.
- Of all students now in the fifth grade, approximately 80 percent will not complete college and earn a B.S. or B.A. degree.
- The number of teen-age and young adult workers (ages 14–24) is expected to increase by almost 700,000 a year, constituting about 45 percent of the increase in the labor force between now and 1970.

The Large City Problem. More than three out of five of the Nation's population now live in metropolitan areas thus creating problems of:

- Large numbers of untrained youth and adults concentrated in small areas.
- Limited facilities and personnel with which to provide for the occupational needs of the youth and adults for entrance into the work force.
- Lack of adequate funds—local, State, and Federal—to provide the essential facilities to implement and operate the needed occupational training.

The Rural Problem. The out-migration of the rural population creates serious problems due to:

- The educational attainment level is lower than for the total population.
- The low economic level and tax base adversely affect the number and kinds of school facilities and educational offerings.
- Sparce population multiplies the problems of providing comprehensive educational programs, due to the small number of students and transportation problems.
- Lack of rural business and industrial employment fosters out-migration especially into the large cities. A serious problem is caused by the inability to offer occupation training to this segment of the population for large city occupations.

Funding Rationale. An estimated 175,000 hard core, underprivileged youth could be reached through this program. Assuming 90–10 matching, the estimated Federal unit cost per enrollee would amount to $1,428 itemized as follows:

Average prevocational, occupational training, and supportive costs per enrollee	[1] $1, 224
Administrative costs	30
Supervision costs	148
Program costs (transportation, work tools)	26
Total	1, 428

[1] Based on actual costs in programs now operated by State boards of education, local schools, and related agencies and organizations.

VI. Vocational Homemaking—$15 Million (50–50)

Today the central focus of home economics continues to be the well-being of the family and the quality, enrichment, and stability of family life. Because of certain developments in society, the need for home economics is probably more important today than during any other period in the history of our Nation. The long-time emphasis in the public schools on preparing individuals for homemaking continues to be important although new problems are facing families which necessitate new directions in homemaking education. Homemaking education and the new emphasis, education for gainful employment or occupational education, both draw on a common body of knowledge in home economics. The new purpose will contribute to the economic development of the country. The central focus of home economics is the family, and the major emphasis is human development.

Since its inception, home economics in vocational education has upheld and must continue to uphold its major and important purpose: to improve the quality of family living and to help youth and adults develop the abilities needed for the occupation of homemaking—guidance of children, management of resources, and feeding, clothing, and housing families. This purpose must continue to be prominent as it is extremely significant in contributing to the stability of family life and society in general in the United States in the light of existing conditions and changes taking place which affect families.

New content emphases are evolving in homemaking education for youth and adults which are designed to give specific attention to the whole area of home and family life to help individuals to function effectively as family members today and as homemakers and parents in the future. Examples of these are understanding of (1) human growth and development, (2) management of personal and family resources, and (3) personal and family relationships.

Poverty and the Disadvantaged. Low socioeconomic and migrant families, rural and urban, need help with use of credit, consumer buying, safety, care of children, sanitation, nutrition, health, education, recreation, and creation of a better living situation.

Funding Rationale. Traditionally State and local matching of Federal funds for home economics approaches a 9:1 ratio. A Federal support payment of $15 million would generate an estimated total expenditure of $150 million for homemaking programs. Thus, an average Federal expenditure of $7.50 per student would support an enrollment of 2 million.

Chapter 14

Administrative Recommendations

The following recommendations are directed to the attention of the Commissioner of Education. They are recommendations which the council feels will make decided improvement in the status and quality of vocational education.

24. IT IS RECOMMENDED, ***That there be established two to four centers for curriculum development in vocational education.***

At present, some 12 curriculum centers are operated by the States, usually in cooperation with universities. Each of these centers has developed curriculum materials for the occupations most commonly taught in vocational education. Very little time or money has been spent on each of these, the result being that we have many poor sets of materials for teaching the more common occupations. For the less frequently taught occupations, little or no curriculum materials are available. There is need for two or three well-developed sets of curriculum materials for each of the occupational fields. This would give each school a choice, and it would still prevent waste and unnecessary duplication.

Probably 10 times as much money has been spent on curriculum materials for physics (taken by 5 percent of the high school students) as has been spent on the 100 or more occupations commonly taught in vocational education.

25. IT IS RECOMMENDED, ***That the Office of Education provide staff for the National Advisory Committee on Vocational Education and establish guidelines for helping the States make more effective use of State advisory boards.***

The 1963 act established a National Advisory Committee on Vocational Education to advise the Commissioner of Education on policy matters regarding all Federal vocational programs. The act also required that the States establish State advisory councils or include on the State board for vocational education persons familiar with the vocational education needs of management and labor in the State.

While there are no reports available to evaluate the contributions of these boards, it is apparent that in many States they have not yet come to grips with their statutory responsibilities. Failure to do so must rest, to a large extent, on the failure of the Office of Education to provide leadership and guidelines for making effective use of the advisory boards.

The national committee cannot function properly unless staff is assigned to coordinate its work with the Office of Education and to relate the work of the Office to the committee members.

The State advisory councils cannot function properly unless the Office of Education gives leadership to the States, through guidelines and publications, on how to successfully use advisory committees for the purpose of reviewing existing programs and policies, and in originating new programs.

26. IT IS RECOMMENDED, ***That a Learning Corps be established on a pilot basis to provide improved learning experiences for economically disadvantaged youths, particularly, innercity youths. Such corps would arrange for young people to have the opportunity of living in selected homes in rural, small city, and suburban communities and to enroll in the local schools where skill development for employment would be a part of their educational program.***

The Learning Corps should be under the direction of a teacher or teachers of vocational education in the local school districts where vocational education clubs such as VICA, Future Farmers of America, and Future Homemakers would assist in the enrichment of the learning experience.

Stipends for incidental and personal needs would be provided in a manner similar to the Peace Corps. Local boards of education would be reimbursed for tuition costs.

The objective would be to provide the motivation of wholesome surroundings, combined with skill development, which would be directed toward potential employment and responsible citizenship.

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Malcolm G. Hunt, State director of vocational education, State Department of Education, Santa Fe, N. Mex.; B.S. and M.A., West Texas State University; Ed. D. Texas Technological College; 1932–35, English teacher; 1935–38, vocational agriculture teacher; 1938–43, high school principal; 1943–64, superintendent of schools, Portales, N. Mex.; 1964 to present, State director of vocational education, Santa Fe, N. Mex.; past president, Portales Rotary Club; past chairman, Secondary School Principal of State; past president, New Mexico Educational Association of the State of New Mexico; past president, School Administrators of New Mexico; one of 20 school administrators chosen in 1962 under the Fulbright Program to study schools in Italy and the Netherlands; (member) Boy Scouts of America, holder of the Silver Beaver Award; National Education Association; AASA; Kappa Phi Kappa, and Phi Delta Kappa.

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